AD-A127 619 INTEGRATED TACTICAL COMMUNICATIONS SYSTEM (INTACS) MANAGEMENT PLAN METHOD.. (U) MARTIN MARIETTA DENVER AEROSPACE CO MAY 80 DAAK21-79-C-0161 1/2

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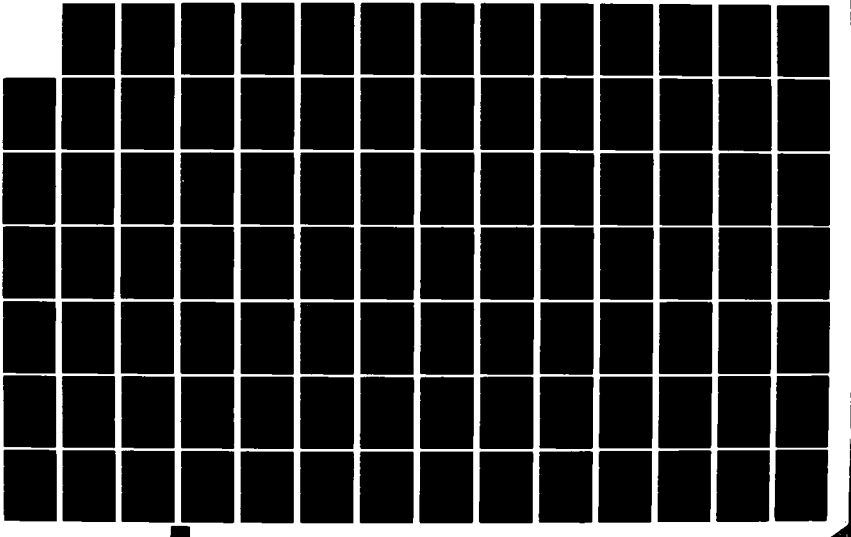

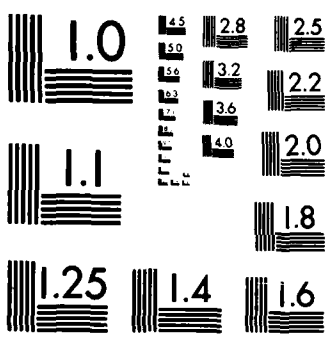

INTACS MANAGEMENT PLAN

METHODOLOGY AND PROCEDURES
RELATIONSHIPS AND RESPONSIBILITIES
RESOURCES

Contract DAAK21-79-C-0161
May 1980

Prepared for:
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FOREWORD

The Integrated Tactical Communications System (INTACS) is the Army's first comprehensive, flexible, cost-effective master plan that merges organization, doctrine and equipment. The master plan encompasses today's system and inventory, the Objective System and all development and implementing activities required to transition. Since the completion and approval of the INTACS Study early in 1976 slow progress has been made towards incorporating changes brought about by evolving technologies and refinement of doctrine and concepts. The INTACS Management Plan Study was initiated in recognition of the urgency for a comprehensive and timely plan for managing and implementing the myriad actions that impact on INTACS.

Developed methods and procedures should provide assurance that all actions pertaining to the INTACS system architecture, transition and communications systems, and equipment interoperability are properly initiated, staffed, evaluated and completed. With the Management Plan supported by automated system management information the Army can realize an effective, efficient and timely transition to the Objective System for the Army in the Field. The associated INTACS Transition Plan, under development also, will become the essential tool for managers and staff to anticipate well in advance the significant implementing actions required to transition. Additionally, the INTACS Management Plan provides the necessary flexibility required for the approval and assimilation of changes in the system as they occur.

The Organization Section of this INTACS Management Plan was submitted previously and was essentially approved in January 1980. These remaining three sections and supporting appendixes of the Management Plan were prepared by the Martin Marietta Corporation for the United States Army Signal Center, Materiel Systems Division in accordance with the provisions of Contract DAAK21-79-0161 and correspond to Task 5 of the Program.

MANAGEMENT PLAN

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INTACS MANAGEMENT PLAN

1.0 ORGANIZATION

1.1 Background

The Integrated Tactical Communications System (INTACS), Phase I Study was initiated as a result of the Department of the Army and United States Army Training and Doctrine Command (TRADOC) recognition that there was a need for an all-inclusive plan which dealt with communications support to the Army in the Field. Phase I was a subjective study covering the near, mid, and long-range time frames which was performed in-house and completed in August 1972. It was intended to be, and was, the basis for a more comprehensive study which was performed with contractual support.

The follow-on study was started in June of 1973, completed and approved for implementation by the Department of the Army on 17 February 1976. This Department of the Army Study was managed by a Study Advisory Group (SAG) chaired by the Director, Telecommunications and Command and Control, Headquarters, Department of the Army. The United States Army Training and Doctrine Command (TRADOC) was the study proponent with the United States Army Signal Center (USASC), supported by the Martin Marietta Corporation, conducting the study. The organization for management during the study is shown in figure 1-1.

An intensive management effort was exercised throughout the study, driven by contract dates and task milestones. Extensive and continual coordination was effected between the military and the contractor at both management and working levels and the SAG Working Group was used extensively. Procedures were defined and both coordination and approval channels were developed to provide integration and leadership. The contracting group was, in fact, performing as an integrating body for all INTACS actions during the study. Because this was a task-oriented study with a definite goal, the "Project" type management worked exceedingly well with staff and "working group" coordination, through direction and approval by the Study Advisory Group.

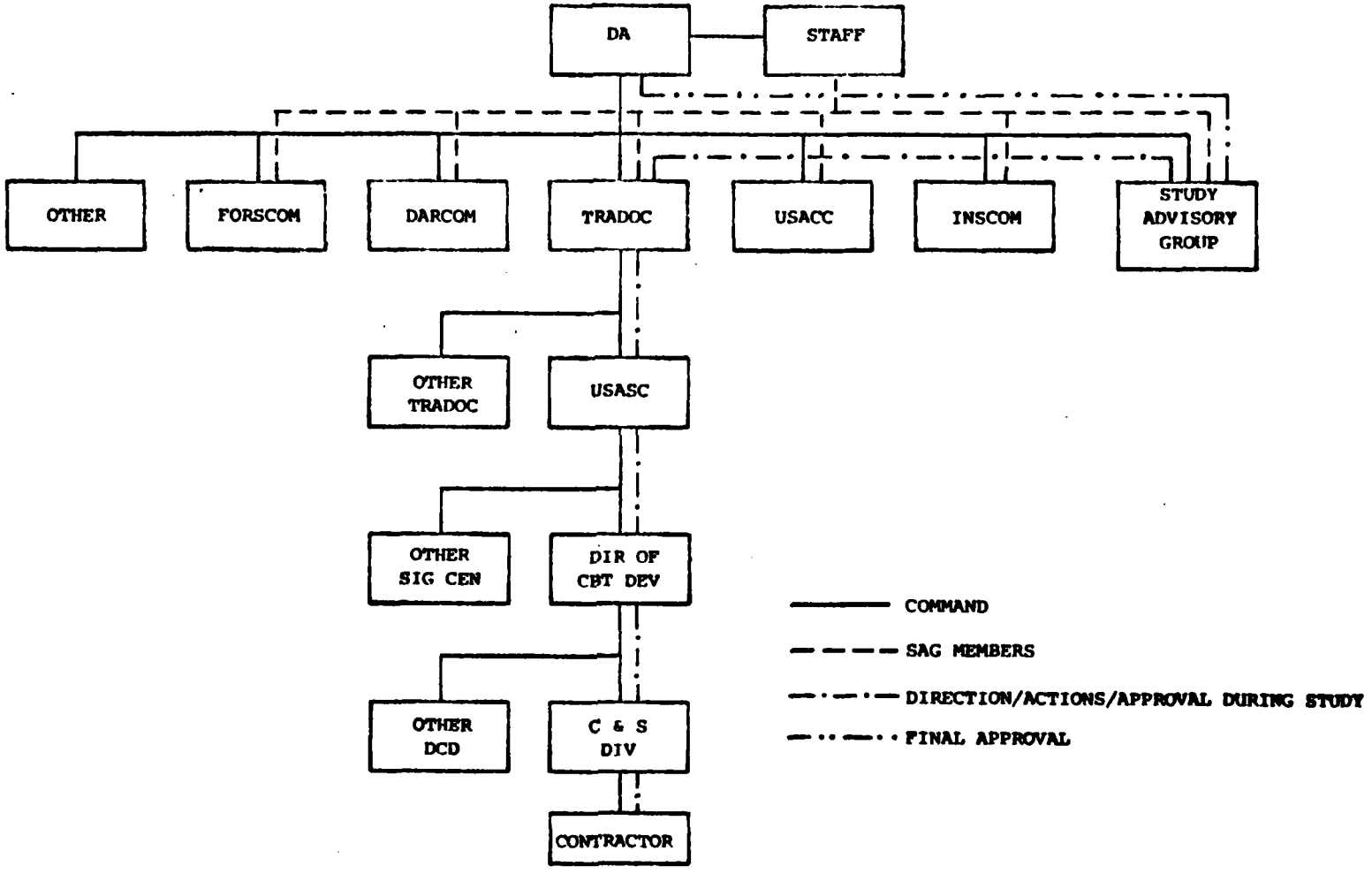

Figure 1-1 INTACS Organization During Study

1.2 Current Organization

The present method of management for INTACS, and other related actions, is along the conventional line and staff organization, with an INTACS Steering Committee interposed at Department of the Army level, similar to the previous Study Advisory Group. The block diagram for this organization is shown in figure 1-2.

Since a line and staff arrangement has been, and still is, used universally among governments, all military organizations and in most conventionally organized industries in an effective manner, no attempt was made to consider another type of organization as a base. Rather, the analysis centered on exactly how this type organization was being used from top to bottom and converse.

To perform an analysis of the organization the following criterion of organizational effectiveness was selected:

- Achievement - Net result of the organization's activity. Meaningful, useful outputs in a timely manner.

A study of the various components of the organization reveals no reason why they cannot function as designed and in a manner which would meet the criteria for organizational effectiveness. The placement of the INTACS Steering Committee as a focal point for INTACS actions is an effective measure. The Committee can provide direction, monitor actions, and be a decision body for obtaining Department of the Army approval on INTACS actions. Unfortunately, the Committee has not been used for the purpose for which it was designed, therefore, weakening the INTACS plan. A prime example of this is that no changes to the original INTACS Study have been staffed through the Committee, approved by DA, and published although there are many de facto changes. Neither has the Committee been asked to approve formally, and incorporate the results of, the many actions taking place under the INTACS update. It then appears that any actions taking place are being handled by the staff action process. This leaves the Committee in the position of not performing the task for which its very existence was justified, i.e. per AR15-23, "The complexities involved in insuring that hardware and personnel are fielded in the proper mix and at the proper time precludes INTACS implementation by exclusive use of the staff action process."

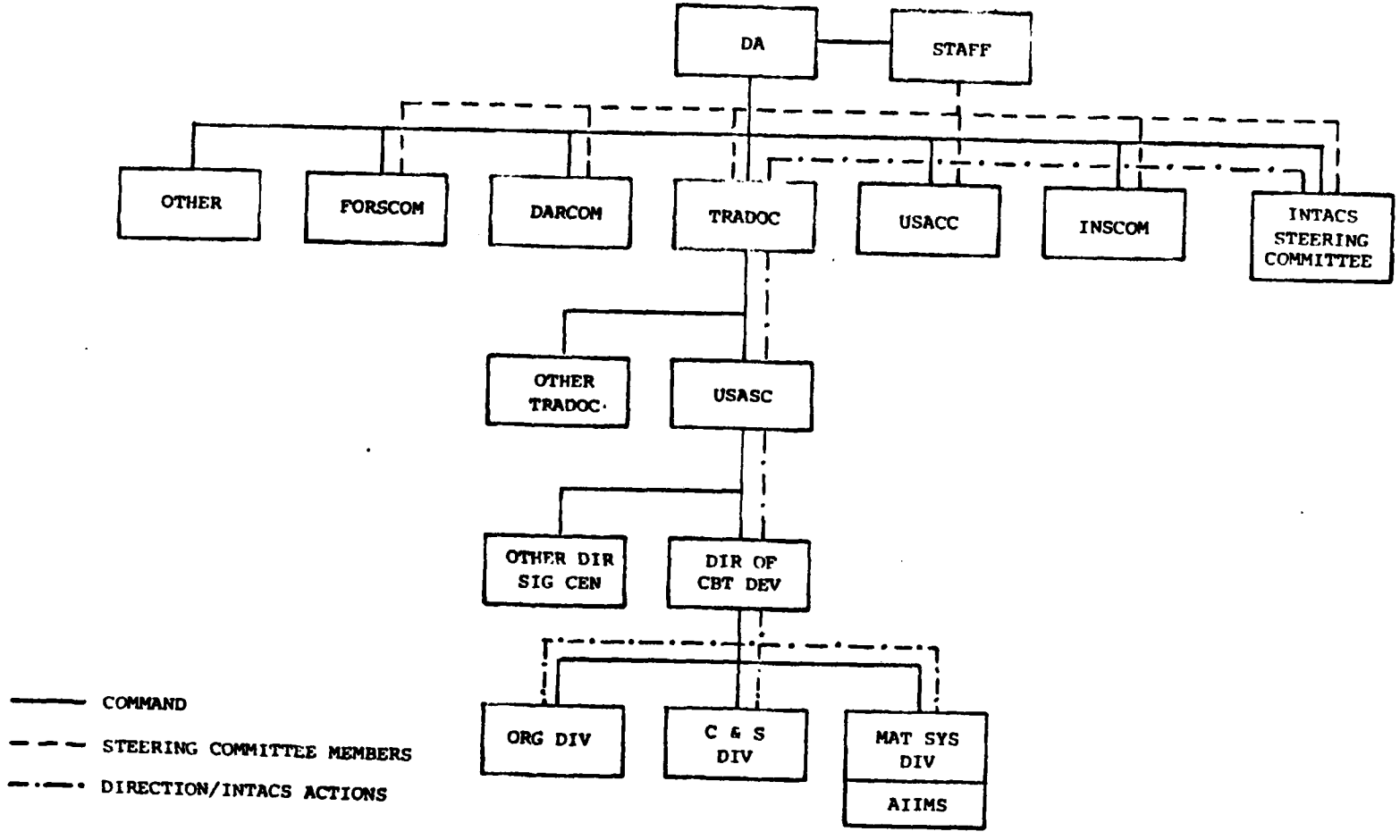

Figure 1-2 Current INTACS Organization

All of the elements in the organization from the Department of the Army, through TRADOC and the Signal Center Headquarters, and down to the Directorate of Combat Developments are staffed and in a position to provide effective management of INTACS. To be effective, these organizations must understand INTACS, its purpose and then place it in the proper perspective with the right amount of emphasis to keep it as a viable system and a vehicle for change as technologies progress and doctrine evolves.

It is at the action level that the first real deficiencies in organization appear. Because of the organization and assigned functions there is a fragmentation of effort in the entire INTACS management and integration effort. This fragmentation causes a dilution of effective, unified coordination and management and requires an inordinate amount of effort for mission accomplishment. A review of USASC & FG Regulation 10-8, Organization and Functions shows INTACS functions in the Organization, Concepts and Studies, and the Materiel Systems Divisions. With these functions assigned to diverse parts of the organization, there is a requirement for an integrating office at the action level which can effectively coordinate and manage a transition plan to field the Transition Hybrid Systems and the INTACS Objective System. This would provide the unified, integrated management for INTACS that is necessary to perform the tasks on schedule.

The Concepts and Studies Division has a low key effort to update the basic INTACS Study on an ad hoc basis. The original task has been diluted through attrition of personnel resulting in a reduced level of effort and several extensions of schedule. To date, no output of this effort has been submitted nor approved through the organizational channels.

A Systems Integration Team has recently been formed in the Materiel Systems Division but is still in the embryonic stage. It is not adequately staffed at this time with the knowledgeable personnel required to perform the systems integration functions. The Automated INTACS Implementation and Management System (AIIMS), now under the Systems Integration Team, has only part of the programs, recommended and approved under INTACS, that are required to automate a transition plan, although

AIIMS has been under development since early 1976. Plans are now being made to expand its scope to meet mission requirements.

From the above discussion of the current organization several facts emerge clearly:

- The current organization can be made to work effectively given that it receives intensive staff management and detailed inter-divisional coordination at the action level.
- The INTACS Steering Committee can, and should, be the focal point for all INTACS actions and provide inter-command guidance on matters of integration and unity of direction. It is not currently performing this function.
- A prime cause of the current organization being less than fully effective is the division of responsibilities at the action level and the lack of an integrating, coordinating office to manage and focus INTACS actions.

1.3 Objectives

To be a dynamic, viable organization which is dedicated to mission accomplishment, the arrangement must be made so that organizational objectives can be attained. These objectives are:

- Effective - Assure integrity and cost effectiveness of INTACS; Achieve meaningful outputs.
- Flexible - Accomodate change based on requirements, resources and the realities of the future.
- Efficient - Responsive; Unity of effort; High achievement with minimum resources.
- Timeliness - Provision of outputs when needed.

An organization may be defined as[1] --- "The arrangement of people in patterns of working relationships so that their energies may be related more effectively to the large job."

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[1] Gordon L. Lippit, Organization Renewal, New York, Appleton-Centry-Croft, Education Division, Meredith Corporation, 1969.

When the arrangement becomes such that the effectiveness diminishes, it is necessary to initiate changes that will re-orient the organization toward new goals. Organization renewal is defined as[1] --- "The process of initiating, creating, and confronting needed changes so as to make it possible for organizations to become or remain viable, to adapt to new conditions, to solve problems, to learn from experiences, and to move toward greater organizational maturity."

With these definitions of organization and with the objectives of the organization outlined, the possible candidate variations of organization can be developed. These candidates with a summary of their advantages and disadvantages are shown in Table 1-1.

Current Organization - Candidate 1 - The block diagram for this organization is shown in figure 1-2. The primary advantages as currently organized is that it follows a tried and approved method of organizing within the Army and can be made to work. Against this is the fact that responsibilities for INTACS management, integration and implementation are split at the action level. Only an inordinate amount of management and coordination could make it meet the objectives of an organization and allow the performance of management functions. Most important is that it requires too high a ratio in terms of management effort versus organizational output to be effective.

Current Organization with Consolidation of Responsibilities under Systems Integration Team - Candidate 2 - This alternative effectively eliminates the primary disadvantage of the current organization. With this arrangement there would be a consolidation of INTACS doctrinal actions and equipment integration under a single management system. This organization has the drawback of being purely at the working level without any authority to task other parts of the organization to complete actions within their areas of responsibility. This becomes an important fact since the objective of the organization and management system is to perform integration of all efforts under INTACS regardless of who performs the initial tasks.

	1	2	3	4	5
Organizational Alternatives	Current	Current with consolidation of responsibilities under Systems Integration Team.	Organize Integration Management as separate Division under DCD.	Organize an Integration Management function at higher headquarters-CACDA, TRADOC, DA.	Establish a TSM with Integration Management function.
Advantages	1. Approved organization. 2. Personnel in place. 3. Minimum disruption.	1. Integrates effort. 2. Nucleus of organization in being.	1. Focus of operation. 2. Integrated planning and operation. 3. Unity of management effort. 4. Consolidation of knowledge.	1. Integrates management 2. Places organization at higher level of authority. 3. Unity of direction.	1. Integrates management. 2. Has higher authority for functions. 3. Unity of direction
Disadvantages	1. Responsibility of management and integration split. 2. Requires intensive staff management. 3. Relationships and procedures unclear.	1. Currently small effort. 2. Difficulty in staff coordination because of placement.	1. Requires new block in organization. 2. Personnel with knowledge must be moved or acquired.	1. Places working group at level of staff management. 2. Lengthens lines of coordination.	1. Implies authority over other TSM's of same level. 2. Not within the scope of functions.

Table 1-1 Candidate INTACS Management Organizations

Organize Integration Management as Separate Division under Directorate of Combat Developments - Candidate 3 - This type of organization arrangement overcomes the disadvantages inherent in Candidates 1 and 2. By placing an Integration Management Division directly under DCD there is achieved a focus for management with its responsibilities for integrated planning and control of INTACS functions. It also provides an organizational structure for consolidation of personnel who have or can acquire a thorough knowledge of INTACS thereby providing for continuity of actions. This will require the effort of obtaining approval of an organizational change and justification of the personnel spaces for manning.

Organize an Integration Management Function of Higher Headquarters - DCD, USASC, CACDA, TRADOC, DA - Candidate 4 - This arrangement provides for an integration of INTACS management while giving it a higher level of authority to accomplish all actions. The disadvantage is that it expands the scope of responsibility at these headquarters by adding to their current function of staff management the tasks of performing their own projects on a working level. Additionally, the lines of coordination to the action agencies are lengthened and geographically separated.

Establish a TRADOC Systems Manager with an Integration Management Function - Candidate 5 - Establishing a TSM for INTACS would provide for a unity of management and integration. Location at the Signal Center would also provide for direct coordination with those agencies responsible for achieving the required actions. This arrangement implies that the INTACS TSM would have tasking authority over the other five TSM's already in existence. Moreover, the TSM program was designed to provide intensive management for designated major systems whereas INTACS encompasses those systems and all other tactical communications systems.

1.4 Recommended Organization

The recommended organization for INTACS management is shown in Figure 1-3. This corresponds to Candidate Organization 3 in Table 1-1. This arrangement effectively overcomes the deficiencies in the current organization by placing an integrating, coordinating management function at a level whereby a knowledgable working group can be formed in addition to having the visability and authority to interact with other organizations

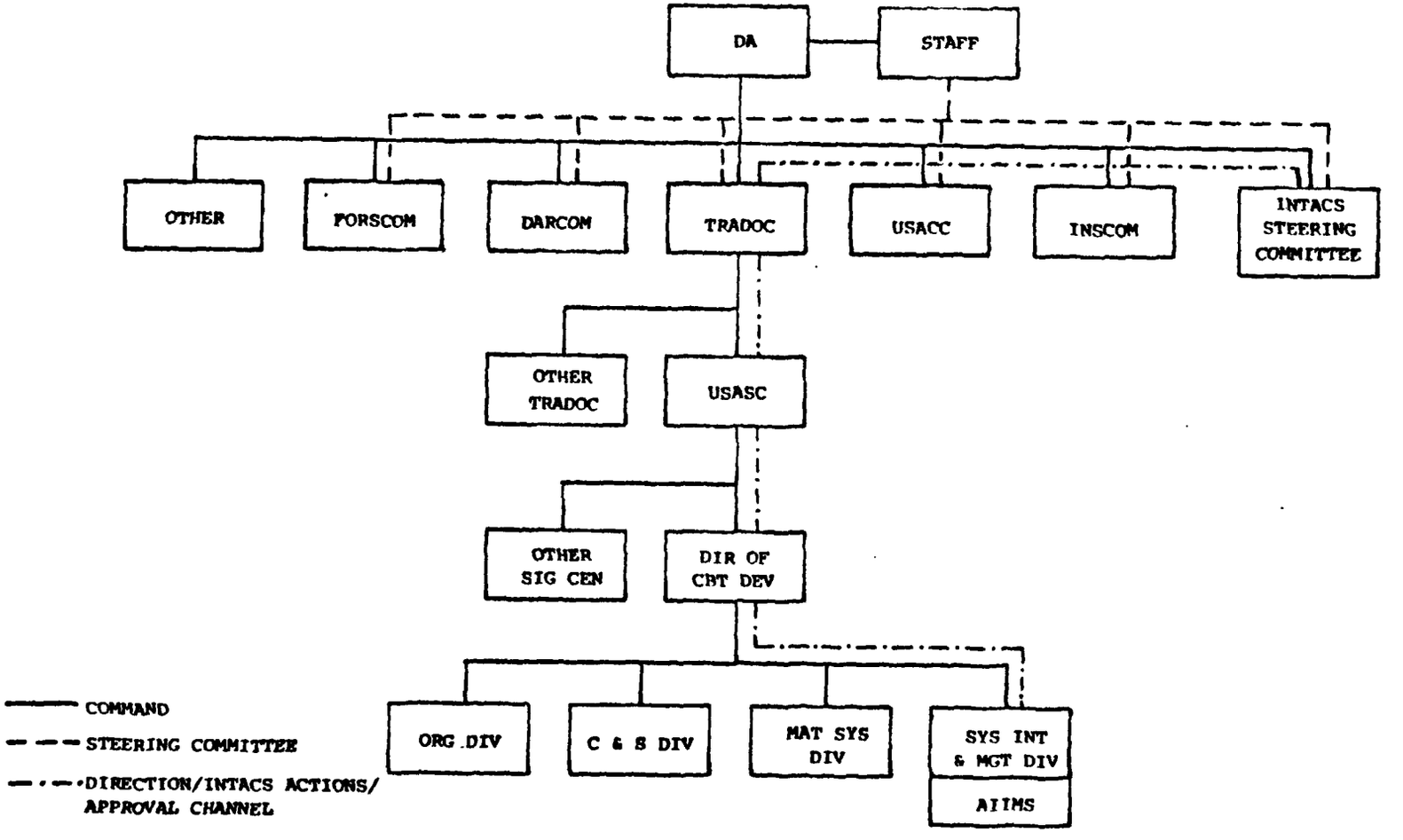


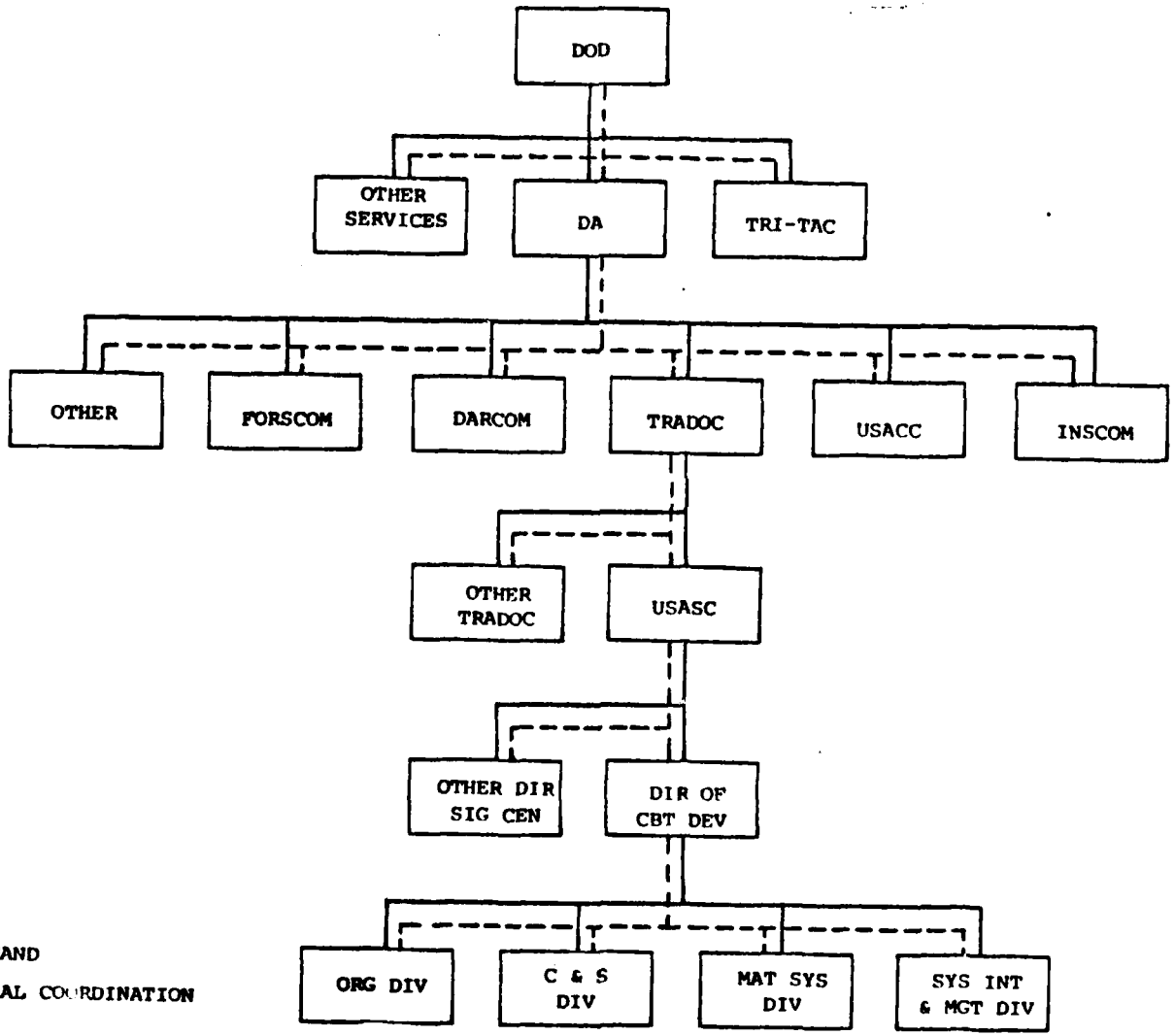
Figure 1-3 Proposed INTACS Management Organization

in an efficient and timely role. The coordination channels, both formal and informal, are shown in figure 1-3A. The management relationships of System Integration Management Organization are unusual requiring close coordination on the many aspects of INTACS. While responsibilities and functions are under direction and control of DCD of USASC, virtually every other organization must be provided coordinated information on which to accomplish their jobs. While it is difficult to quantify the advantages and disadvantages of candidate organizations, it is relatively simple to weigh the features of an organization against established objectives which it must meet to be successful.

The Directorate of Combat Developments currently has the responsibility for all phases of INTACS actions from review and update to integration efforts. Establishment of an Integration Management Division or Group under the Directorate provides the agency which can serve to meet those objectives.

- ●Effective - This organization is effective because it is the focal point for all INTACS actions and can provide for integrated planning coordination and operation.
- ●Flexible - Flexibility can be attained through centralized planning of actions and by coordinating requirements with other action agencies during periods of high activity.
- ●Efficient - Through unity of effort a high achievement rate can be had with a minimum amount of resources.
- ●Timeliness -Timeliness of action is provided through centralized control of actions to ensure that actions are given the proper priorities and allotted the necessary resources.

Under this organization the functions, capabilities and timeliness requirements at all levels of the organization from Directorate of Combat Developments up through Department of the Army remain as they are under the current organization.



NOTE: INFORMAL COORDINATION AND INFORMATION EXCHANGE IS DIRECTED AS REQUIRED

FIGURE 1-3A Command And Coordination Lines

INTACS Steering Committee - AR 15-23 requires a revision to more clearly spell out the responsibilities and functions of the Committee. To be effective the Committee must actively provide direction, guidance and be a channel for approval of the INTACS Transition on an inter-command level. Development of a working sub-committee for major issues would assist in meeting its responsibilities.

System Integration and Management Division - The Division performs for the Directorate that part of the mission dealing directly with INTACS management, coordination, and integration from the current through the transition to the objective system. To perform this mission the following functions are assigned to the Division:

- As the primary staff advisory and coordinating office provides definition and direction for all INTACS actions including system architecture, interface, interoperability, hybrid systems, and transition plans.
- Performs the system integration function for tactical communications systems and issues to all others, and updates to keep viable, source documents on architecture, communications support, and implementation guidelines.
- Defines and expands system concepts and architecture and participates in cost effective evaluation of conceptual refinements.
- Briefs, assists, provides guidance, and supports working groups in conducting doctrinal and conceptual studies.
- Represents USASC at DOD, DA, DARCOM, TRI-TAC, and other services high level conferences on communications systems.
- Supports all TSM's and Directorates of the USASC to insure coordination and integration of communications systems, training, logistics, and Life Cycle Management functions.
- Develops and updates the strategy for implementing the transition and objective communications systems for the field.
- Defines transition and implementation constraints in a form suitable for ADP and utilization by AIIMS.

- Defines and establishes procedures for extraction and utilization of implementation schedules from AIIMS. Provides this information to TRADOC, DARCOM, DA, TRI-TAC and others as required.
- Uses procedures and develops equipment acquisition and distribution schedules in accordance with source documents and guidelines.
- Develops and manages the INTACS Transition Plan.
- Maintains up-to-date status and continuous evaluation of the INTACS Transition Plan and data base through AIIMS and provides current information to all agencies involved with integration including Joint and Allied.
- Prepares recommended acquisition priorities and funding profiles as input to the annual TRADOC Priorities Program.
- Provides by year equipment requirements as input to DA RDAC and TRI-TAC Transition Plan.
- Provides direction for assigned support projects being conducted by contract.

A recommended internal arrangement to accomplish these functions together with a tentative listing of personnel types is shown in figure 1-4. A more detailed package will be developed in Section 2.0, Management System, as the duties and procedures are identified and defined.

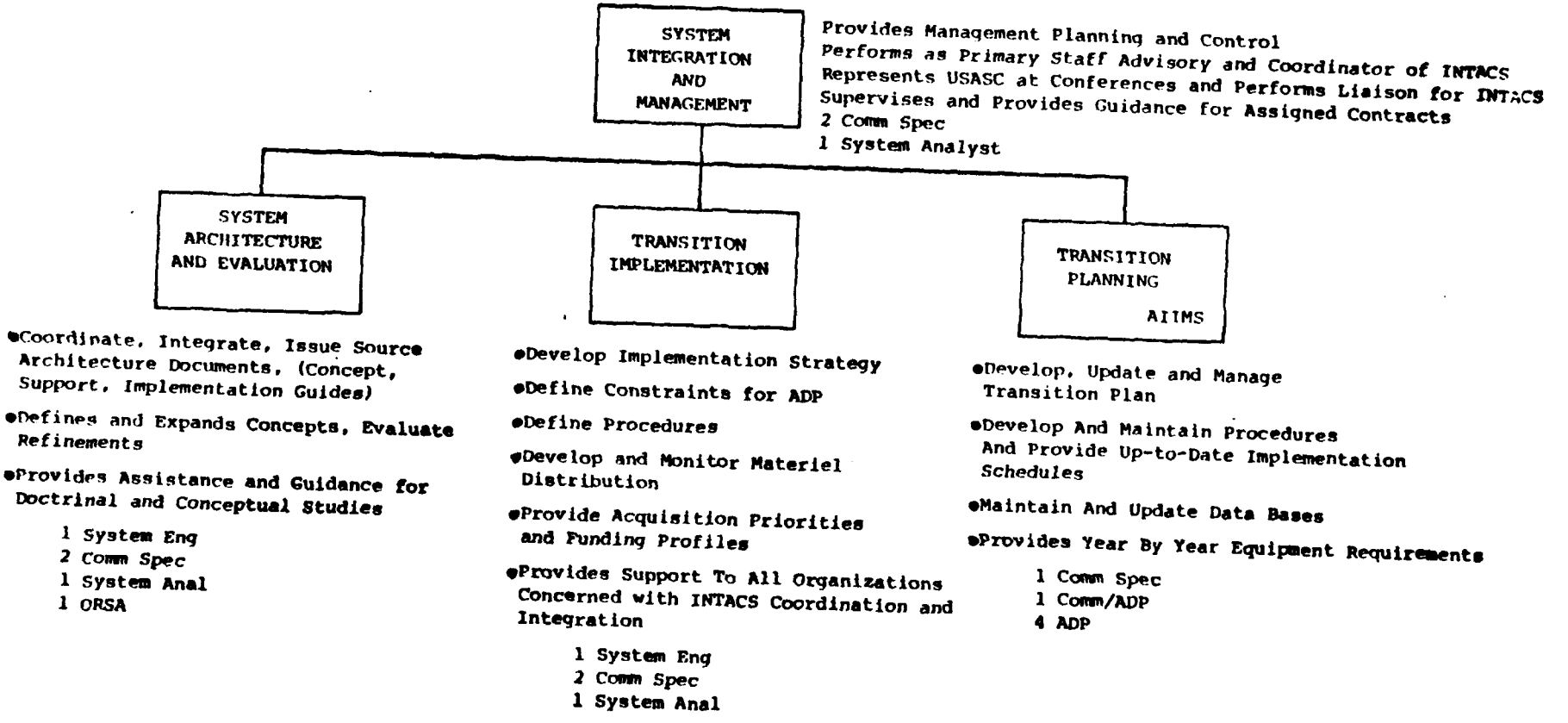


Figure 1-4 Internal Functions and Manning

2.0 MANAGEMENT METHODOLOGY AND PROCEDURES

An effective management system is essential to the achievement of the INTACS goals. The management system encompasses the Management Methodology and Procedures, Organization, Functions and Outputs, Resources and Master Work Plans. This Management Plan is a summarization of essential parts of a contractor study to overcome a recognized short-fall in system integration management. Additional material on approaches and alternatives are available in the Study. This section provides background, policies and objectives which are the basis for the described Management Methodology and Procedures.

2.1 Background

INTACS is the continuing Master Plan of a large, complex, costly system which encompasses current to objective systems, and provides the foundation and architecture.[1] The continuing thrust of INTACS is represented across the top of Figure 2-1 and the goals are listed on the right side. The word, integration, in INTACS means formulation into a whole, and it encompasses all phases of the tactical communications systems to be fielded from here to objective. Therefore all who deal in tactical communications are expected to realize and enforce this definition and to become actively involved with INTACS to help achieve the goals. A continuing, flexible, efficient, timely and coordinated methodology will tie activities together and will insure accomplishment of the management goals. Foremost among these goals are the development of planning and the accommodation of the type of changes to INTACS listed at the bottom of Figure 2-1. Application of the methodology provides advantages of technology growth while insuring system integration/interoperability and maintaining a cost-effective system in the field

2.2 Telecommunications Management Policies

This management methodology is consistent with the organizational and functional statements described later and with the policies and procedures in AR 105-1, Telecommunications

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[1] AR 15-23, INTACS Steering Committee

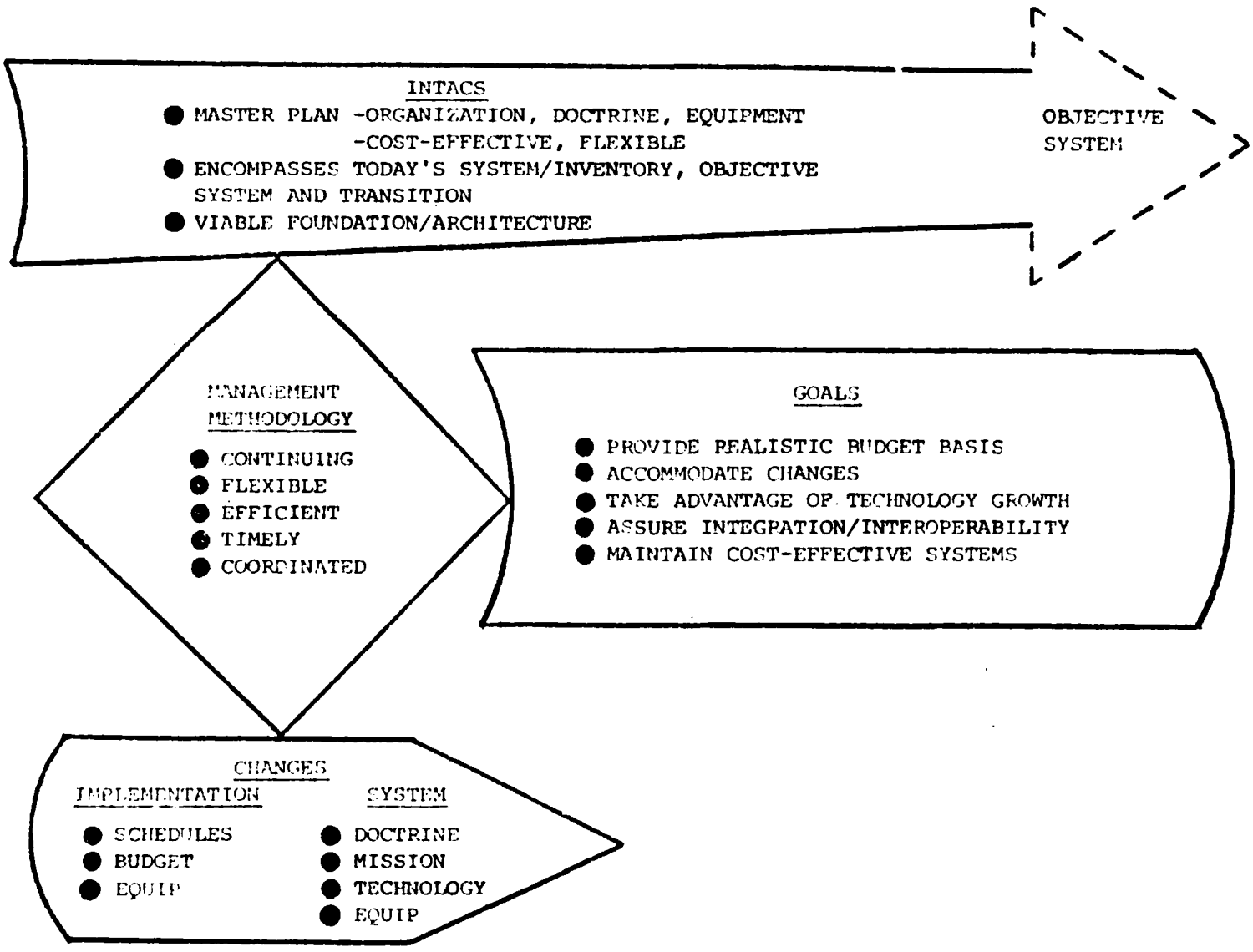

FIGURE 2-1 INTACS MANAGEMENT GOALS

Management; AR 70-1, Research, Development, and Acquisition; and AR 5-1, Management Doctrine. Particular emphasis is placed on the following policies:

Systems Integration.[2]

Emphasis will be placed on complete systems integration of all functional elements such as transmission, switching, security, terminal processing, and distribution of voice, record (message and data), video and other communications media; and on the employment of effective systems management techniques and efficient resources utilization throughout the life cycle process.

Master Planning.[2]

Army telecommunications master planning will be employed to integrate planning, programming, budgeting, and execution and normally should comprise a 10-year time period. HQDA (DAMO-TCO) planning for tactical communications is contained in the DA Tactical Communications System Master Plan (TACSYSMP).

Management Information Systems.[2]

Appropriate management information systems will be developed, maintained, and utilized to support management needs in the planning, development, acquisition, installation, and operation of all telecommunications systems.

Utilization.[2]

Commanders and agencies will provide communications on a common user basis whenever possible. Dedicated facilities will be reviewed on a continuing basis and rejustified or integrated into a common user system.

Cost Effectiveness.[3]

Cost and operational effectiveness analysis will be used for establishing the expected improvement in operational capability, maintainability, reliability, and life cycle ownership costs for new items

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[2] AR 105-1 Telecommunications Management

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[3] AR 70-1 Army Research, Development, and Acquisition

and major modifications to existing systems. Marginal improvements in the name of modernization will not be undertaken.

Controlling.[4]

Control is the process of insuring compliance with plans, orders, directives, and policies and the initiation of corrective action when necessary to accomplish the mission as scheduled.

Developed management objectives must be clearly stated, attainable, and make efficient use of available resources. Objectives should be communicated to all levels. Personnel who control must establish priorities, allocate critical resources and, identify/correct basis deficiencies.

Approvals and Guidance.[1]

The INTACS Steering Committee will oversee the implementation progress of INTACS and provide guidance to the appropriate agencies in response to future changes in funding levels, doctrine, requirements and equipment development programs.

2.3 System Integration Management Objectives.

The primary objectives of the management plan are to maintain an integrated architecture and flexible transition planning foundations, accommodate changes in requirements, take advantages of technology growth and evaluate impacts while maintaining an Objective System and a system in the field that are cost effective.

The objectives were formulated after identifying the goals to be achieved and examining telecommunications management policies. These objectives and goals are summarized in Table 2-I.

A comprehensive methodology is required to define an effective process for accomplishing the objectives and goals to realize INTACS. The Methodology and reference Army Regulation telecommunication policies are summarized also in Table 2-I.

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[4] AR 5-1, Army Management Doctrine

Table 2-I MANAGEMENT OBJECTIVES AND METHODOLOGY SUMMARY

OBJECTIVES	REFERENCE
o Establish Effective Methodology	
o Realize INTACS	AR 15-23, INTACS Steering Committee
o Attain Management Goals:	
- Provide realistic budget basis	
- Accommodate changes in Schedules, Budget, Doctrine, Mission and Technology	
- Assure integration/ interoperability	
- Maintain Cost-effective Systems	

METHODOLOGY	
o Emphasize system integration	AR 105-1, Telecommunications Management
o Employ 10-yr master planning	"
o Incorporate automated planning (AIIMS)	"
o Insure cost-effective system	AR 70-1, Research, Development and Acquisition
o Control (Establish objectives and priority; allocate resources; correct deficiencies)	AR 5-1, Management Doctrine
o Approve and guide	AR 15-23, INTACS Steering Committee

In the following section, the INTACS management methodology is designed to accomplish the objectives listed in Table 2-I in accordance with the referred Army Regulations.

2.4 INTACS Management Methodology

This methodology accents the previously stated objectives and goals and considers all the many actions that are required for the system integration and for the orderly transition of INTACS. All major processes of the methodology utilize the computer to a large extent in order to improve timeliness, effectiveness, and efficiency of system integration and management.

Current, transition and objective phases of INTACS are represented across the top of Figure 2-2. A key part of the Methodology is the Automated INTACS Implementation Management System (AIIMS) which represents INTACS in the details of implementation. This involves force-equipment definition/distribution and schedules for current, transition and Objective Systems. The extensive data base and programs in computer allow rapid update and hypothetical manipulation of inputs on budget and cost, force and priority, equipment and personnel.

The first major process, System Impacts Evaluation, is supported by AIIMS for implementation changes and by Automated System Evaluation Program (ASEP) for system concept refinements. When changes have occurred or have been approved the System Architecture is updated using reports from the System Management Information portion of the Automated Management System. The System Management Information Program provides all automated reports including those from ASEP and from AIIMS plus the five reports listed in the figure. These reports go to the managers and users concerned with the implementation of INTACS. The process of Transition Planning results in the Transition Plan which defines guides and procedures for the inputs to AIIMS and for utilization of the outputs from AIIMS. Approval and Guidance is provided by the INTACS Steering Committee who oversee the implementation progress and provide guidance to appropriate implementing activities. Status of these implementing plans and actions closes the cycle via AIIMS and the System Impacts Evaluation process.

Each of the processes of the management methodology cycle shown in Figure 2-2 are summarized in this section. Appendixes to the Management Plan Study provide supporting detail and applications. Brief procedures to accomplish each process are defined in a subsequent section.

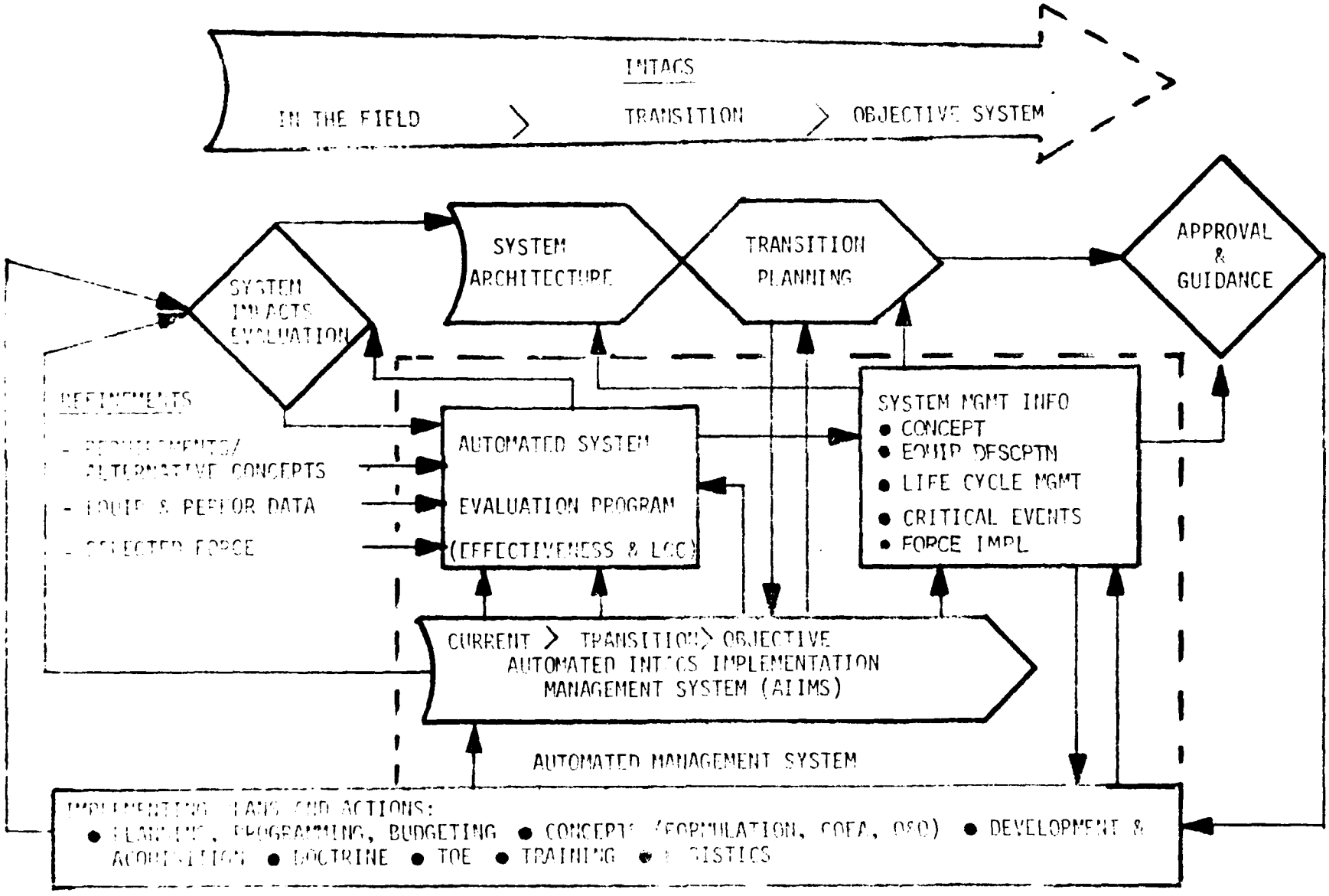

Figure 2-2 INTACS Management Methodology

2.4.1 System Impacts Evaluation (Reference Figure 2-2)

The System Integration and Impact Evaluation Organization element defines and expands concepts and evaluates refinements. Proven, accepted and approved ways for quickly identifying and evaluating the impacts of changes on the system in any phase of transition are required.

Implementation Refinements

AIIMS, as expanded qualifies as the impact identification method for a large set of factors categorized under implementation. With AIIMS, changes in force, budget, equipment and personnel requirements, either real or hypothesized, are reflected quickly into quantitative results. In effect the outputs from AIIMS can be summarized as follows: Predicted annual equipment and personnel requirements to support the force with communications within budget. Future impacts can be anticipated by exercising the programs with hypothesized "What if" types of changes. Then, comparison of the changed results with the original predictions identifies the impacts of the changes in quantitative terms.

System Concept Refinements

On the other hand, changes in the systems concepts and architectures are difficult to evaluate, particularly by a rigorous, quantitative method. However, as part of the INTACS Study, a rapid System Evaluation Process[5] was developed and utilized. This qualifies as the impact evaluation method for a large set of changes in requirements, concepts and architecture. Doctrine, mission, and technology type changes are considered when they can be compared to a known base case. Automation of this process was developed further under the INTACS Update effort[6]. The evaluation process is summarized below with supporting details provided in Appendix B to the Management Plan Study.

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[5] System Evaluation Process, INTACS Task XV

[6] Integrated Model Methodology, INTACS Update Volume 5 Draft

After initial analysis and identification of expected system impacts, capability vs. cost of proposed alternative system concepts/refinements can be compared in quantitative terms to current, transition and Objective Systems. Since the analysis is complex, the comparison is assisted by the Automated System Evaluation Program (ASEP) which uses the data bases of AIIMS. These data bases include detailed force/equipment representations called force models, of current (in the field), transition and Objective Systems. Results from this evaluation process of the methodology is an aid to decision making, and the process accomplishes the management objectives/goals of: accommodating changes, taking advantage of technology growth, evaluating impacts, and assuring cost-effectiveness of the system.

The impacts of changes on the system are evaluated (Figure 2-2) in view of requirements and candidate cost-effectiveness evaluation data graphically presented by the ASEP. Evaluation results must show significant improvements and be approved by the INTACS Steering Committee in order to change any of the systems architectures.

The inputs to ASEP listed on Figure 2-2 are primary to determining effectiveness and life cycle cost evaluation data by the automated process. The alternative concept or potential refinement must be defined in terms of equipment issue basis and personnel requirements. Since AIIMS contains the total force at different time periods, the evaluator may choose all or some portion (Division, Corps) of the force and time period for the comparison. Table 2-II summarizes each program of ASEP. Appendix B to the Study describes and illustrates the programs which include computer-graphing of the results.

In summary, the System Impacts Evaluation process is used for two broad categories of changes or proposed changes, as shown in Figure 2-3. The first category involves implementation factors affecting the schedules, budget and equipment. Impacts of these type changes are evaluated with the aid of AIIMS. The second category of changes involves alternative concepts of doctrine, mission, requirements, and equipments. Impacts of these changes are evaluated with the aid of ASEP which provides effectiveness and cost data graphed in various forms.

Table 2-II

INTACS

AUTOMATED SYSTEM EVALUATION PROGRAM

PROGRAM	DESCRIPTION
o T ELIST	FOR SELECTED BASE TIME PHASE, FORCE AND EQUIPMENT TYPES, PROVIDES QUANTITIES OF EQUIPMENTS ASSIGNED TO UNITS.
o TELEQIPUP	MODIFIES BASE PHASE SYSTEM TO REPRESENT CANDIDATE BY ADDING/DELETING EQUIPMENT ASSIGNMENTS.
o MOETOELIST	WITH FURNISHED BASIC EQUIPMENT DATA, e.g. SIZE, WEIGHT, POWER, AND PERSONNEL CALCULATES 11 MOE FOR SELECTED FORCE.
o LCC	WITH FURNISHED HARDWARE, TRAINING, AND PAY COST, COMPUTES LIFE CYCLE COST FOR SELECTED NUMBER OF YEARS.
o GRAPHS-COST VS. CAPABILITY	WITH FURNISHED MOE AND LCC, PLOTS SELECTED OPTIONS OF COST (RESOURCES) VS. CAPABILITY (ATTRIBUTES) OF A CANDIDATE ON A GRAPH WITH BASE SYSTEMS WHICH REPRESENT CURRENT, TRANSITION AND OBJECTIVE TIME PHASES.
o GRAPH-ANNUAL TOTAL COST	WITH FURNISHED EQUIPMENT AND PERSONNEL REQUIREMENTS FOR SELECTED FORCE, PLOTS ACQUISITION PLUS O&S COSTS FOR TWO SYSTEMS (e.g. CURRENT AND OBJECTIVE) FOR A SELECTED PERIOD OF TIME.

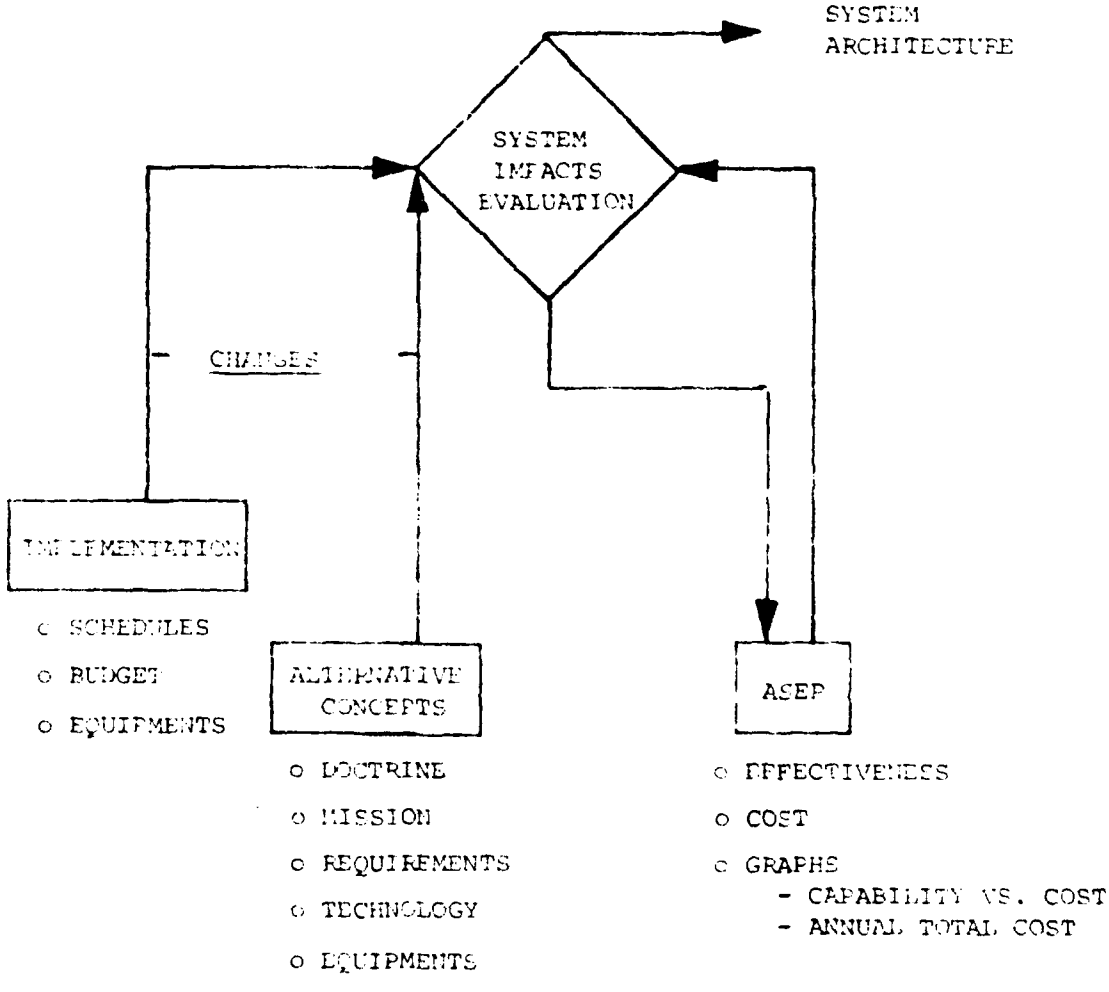


Figure 2-3 System Impacts Evaluation

2.4.2 System Architecture (Reference Figure 2-2)

The Architecture of INTACS is detailed in an extensive single volume which describes Objective System Concept, Communications Support Plan and Implementation Guidelines. This documentation is the result of a principal function of the System Integration and Impact Evaluation organization element which coordinates, integrates, and distributes source architecture documents. The purpose is to provide the principal system, support and transition guidelines which affect all orderly transitions from current capabilities to the Objective System. Periodic updates, supported by automated System Management Information reports, reflect new requirements, equipment developments and doctrinal changes.

Contents of the INTACS Architecture, Hq USASC, May 1979, are summarized on Table 2-III. The document reviews the Objective System and includes the latest equipment and doctrinal requirements, and the operational and deployment criteria for the system including the transitional period. The applications for transitioning contain many factors to include time phases, equipment phases, equipment interoperability, equipment staging and procurement. Also discussed is unit priority based on the JAMPL, which requires priority phasing. The Architecture document is the principal reference utilized in the preparation of the Transition Plan and the implementation details thereof. The document describes the Communications Support Plan which is a detailed breakdown of the Signal organizations and equipment needed to install, operate, maintain and control the Objective System at each echelon. It includes Signal Unit Description Sheets (UDS) which states the unit's title, TOE designator, assignment, basis of allocation, mission, organization, personnel totals, and major equipments authorized. The communications equipment for the Transition and Objective Systems are documented as Equipment Description Sheets (EDS). Each EDS describes each item by nomenclature, key number, technical characteristics, capabilities, components, size and weight, and mounting. Finally, the document defines implementation steps required to transition from the current communications system

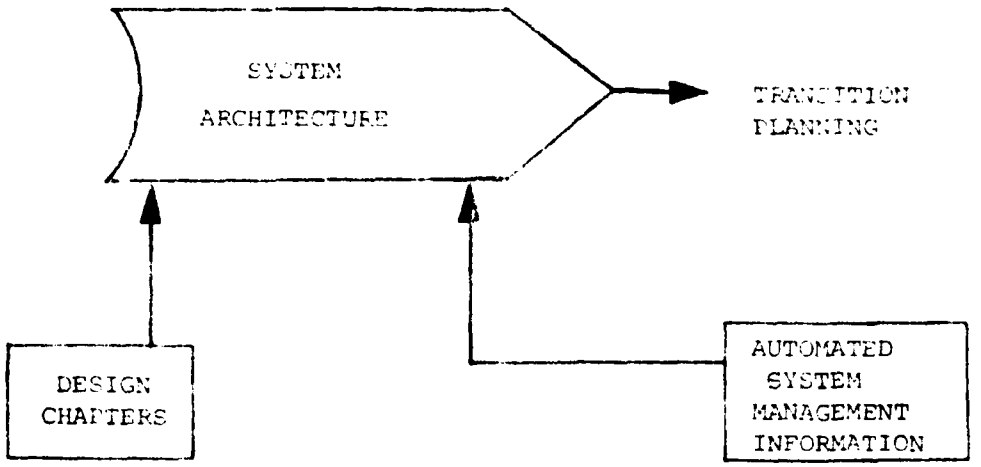
TABLE 2-III INTACS ARCHITECTURE

CONTENTS

to the Objective System for the total Army. Future additions will include sections on Management Methods and Procedures and on AIIMS Inputs and Outputs.

A supporting document in a separate volume is the Transition Architecture Requirements, Hq USASC, July 1979 which provides an extensive data base for current, transition and Objective systems used as the basis for requirement statements, mission profile development, trade-off evaluation and system planning during the transition to the Objective System. This document serves an an annex to the preceding INTACS Architecture document. The data presented is derived, to a large extent from an INTACS computer-assisted analysis of a slice of 4 corps and 4 division communications nodes for the current, transition and Objective systems. Requirement statements as defined in the O&O concepts for the AN/TTC-39 and AN/TYC-39 Switches as well as the Loading Requirements for the Operational Testing (OT) were the first areas to utilize the data. Subsequent use was made for the CNCE configurations, the INTACS Update, and the TCCF O&O concept. The document provides extensive details on three types of Corps networks: 16-node voice, 12-node voice, and 4-node message network, for all transition phases to include current, improved ATACS, early hybrid transition , late hybrid transition, and the Objective System. Also provided are details for all transition phases of Division network to include current, improved ATACS, transition integrated and Objective System.

In summary, the System Architecture is the design for obtaining the Army's Objective System of the future, and provides guidelines for the orderly transition from the current system. The Architecture is flexible to adapt to refinements. Update of the design chapters is timely when supported by the Automated System Management Information as shown in Figure 2-4. Examples of the two tables that describe thrust and advantages of the Objective Concept are in Appendix C to the Management Plan Study. System Architecture changes are reflected first in AIIMS Force Models which represent current, transition and objective systems. Then, the Force Model outputs are used to update the Architecture document. Magnetic cards for EDS also provide Automated System Management Information to support timely update of System Architecture.



○ OBJECTIVE CONCEPT	- THRUST/ ADVANTAGES	CONCEPT THRUST AND ADVANTAGES TABLES- MAGNETIC CARD FILES
○ COMMUNICATIONS SUPPORT PLAN	- UNIT DESCRIPTION SHEET	AIIMS FORCE MODEL F-5, OBJECTIVE TOE FILE
	- EQUIPMENT DESCRIPTION SHEET	EDS - MAGNETIC CARD FILES
	- MAJOR EQUIPMENT DISTRIBUTION	F-5, OBJECTIVE EOI FILE
○ IMPLEMENTATION	- ILLUSTRATED CURRENT TO OBJECTIVE TRANSITION STEPS	AIIMS FORCE MODELS F-1, F-2, F-3, F-4, F-5
	- ILLUSTRATED PREDICTED SPECIFIC SYSTEM BY PHASE	

Figure 2-4 System Architecture

2.4.3 Transition Planning (Reference Figure 2-2)

This computer-assisted process results in a set of documented procedures which delineate how automated implementation planning for the transition from now to objective is accomplished and utilized. The working data and implementation information reside in AIIMS. The Transition Plan covers strategy, inputs, force-equipment systems, current status, and predicted equipment, personnel and training requirements.

As shown in Figure 2-5, the Integrated System Transition Planning element of the SIMO develops the strategy for implementing the transition to the Objective System for the field. The strategy covers priority, geographic disposition, training, and the requirement for a single, comprehensive plan supported by automation. The Transition Planning element also defines inputs, force models and implementation constraints.

The Integrated System Implementation element of the organization develops, maintains and updates the AIIMS data base according to Transition Planning procedures and provides up-to-date system management information.

In turn, the Transition Planning element establishes procedures for the utilization of these outputs in the form of predicted equipments, training and fielding schedules.

The required inputs to AIIMS and primary source are listed on Table 2-IIIA. These inputs are integrated and updated by the Assistant Chief of Staff Automation Communications(ACSAC) System Integration as shown in Figure 2-5A. The ACSAC DA Terminal in the center electronically distributes the inputs to the Fort Leavenworth computer where the Signal Center terminals gain access. In addition to the future link to a CORADCOM terminal indicated, a future link between Signal Center Management System and Army Command and Control Management Information System-TRADOC (ACCMIS-T) is anticipated. This link will allow interchange of information on life cycle management, communications systems, components, and fielding plans.

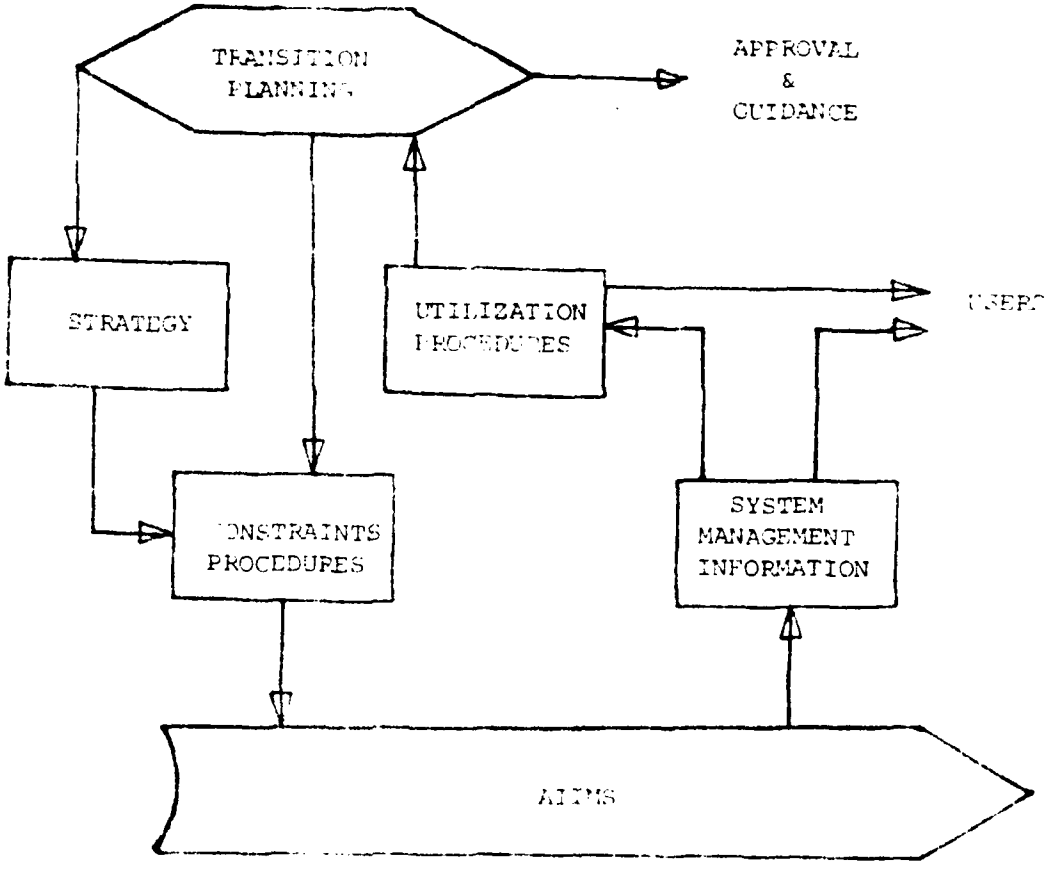


Figure 2-5 Transition Planning Cycle

REQUIRED INPUT	PRIMARY SOURCE
1. Budget (Actual and Predicted)	DA Staff
2. Program Objective Memorandum (POM)	DA Staff
3. DA Master Priority Listing (DAMPL)	DA Staff
4. Equipment Costs	DA Staff
5. Initial Operational Capability (IOC)	DARCOM
6. Equipment Production Rates	DARCOM
7. Army Acquisition Objective (AAO)	DA Staff
8. TOE and BOI	TRADOC
9. Force Model Equipment Lists	Signal Center
10. Research, Development and Acquisition Committee (RDAC) Sheets	DA Staff
11. Current Issue Status	DESCOM
12. Issues, Turn-ins and Redistribution	DESCOM

TABLE 2-IIIA Required AIIMS Inputs and Primary Source

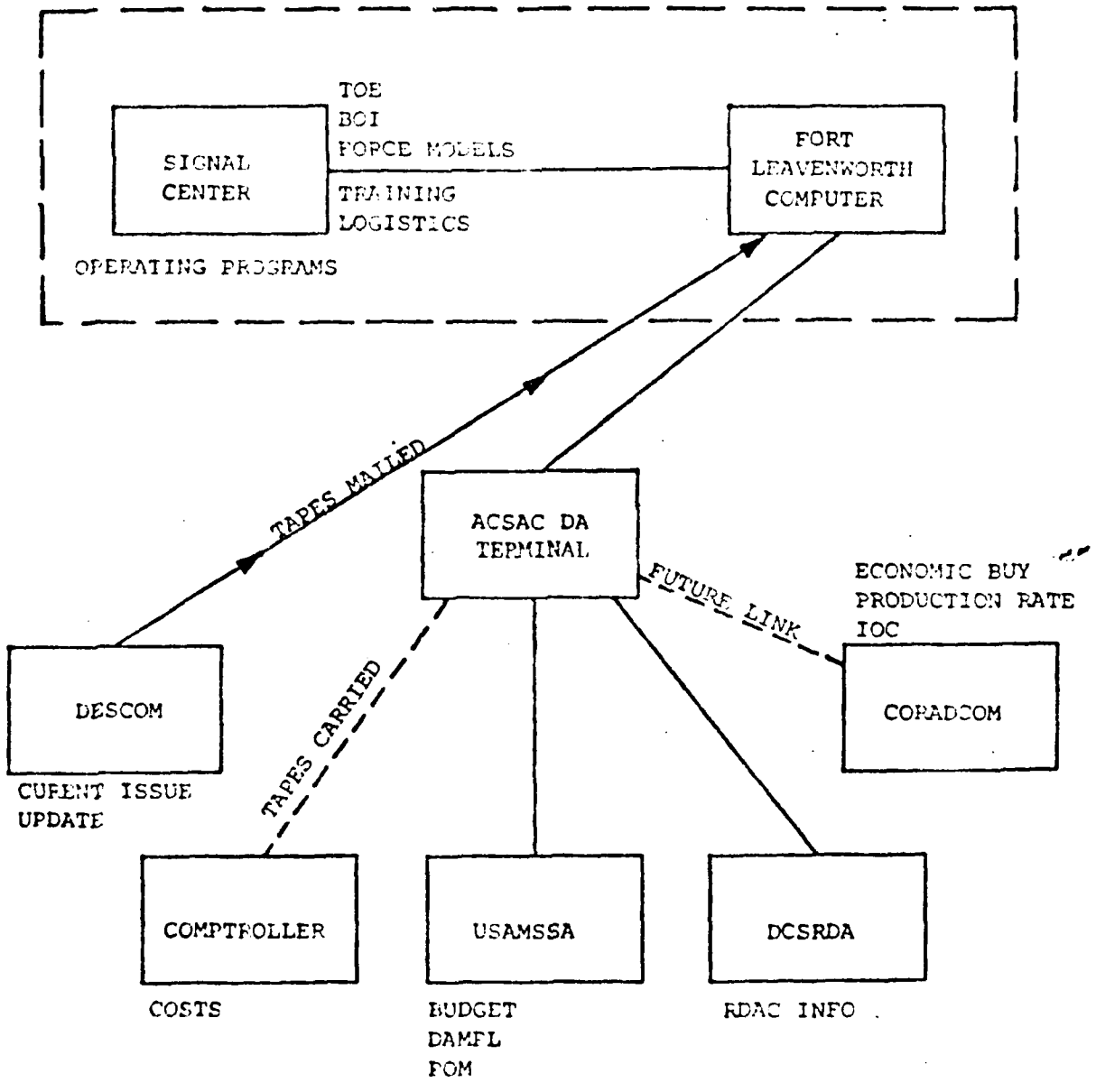


Figure 2-5A. AIMS INPUTS INTEGRATION AND UPDATE

2.4.4 System Management Information (Reference Figure 2-2)

The data base of AIIMS serves as a repository for many types of information and will output various summaries, reports and schedules for the users of the system both internal and external to the USASC.

The System Management Information portion is the spokesman for the Automated Management System, as it handles all reports including those from ASEP and AIIMS. Three manuals provide definition and procedures for users on inputs, programs and outputs. Each manual defines the inputs required, flow charts the programs and illustrates the output formats.

The reports produced by automated programs and purpose of each are listed in Table 2-IV. The System Evaluation Program, ASEP, produces the first five reports which were described under the System Impacts Evaluation process in Section 2.4.1. These reports are used to provide convincing evaluation data on candidate refinements.

AIIMS will report its own inputs to provide the basis for implementation plans. Force Models which represent current, transition and Objective Systems provide reports in TOE, BOI form, and equipment lists. These reports directly support update of the Architecture document as discussed under preceding Section 2.4.2. These same report formats are useful also for describing any of the systems by year including the current system to provide status. The implementation plan of INTACS is represented by the three schedules listed.

Funding and distribution data for each equipment as derived from AIIMS is combined with additional major critical events to provide the Life Cycle Management Summary as shown on Table 2-IVA. Manually provided critical events per DA PAM 11-25, Life Cycle Management Model, pertaining to USASC activities are presented in detailed format. The Force Implementation Summary predicts when the force will be implemented with new equipment, by priority.

Additional manually-updated reports from System Management Information which include the critical events mentioned are descriptions of Objective Concept and Equipment Description Sheets (EDS) for Architecture updates.

The System Management Information Program puts all of the foregoing automated reports together and provides them to users. Appendix C of the Management Plan Study describes the automated reports and program.

TABLE 2-IV. AUTOMATED REPORTS

PROGRAM	REPORT	PURPOSE
SYSTEM EVALUATION (ASEP)	EQUIPMENTS PER UNIT (TOELIST)	BASE SYSTEM AND CANDIDATE DESIGNS
	MOE (MOETOELIST)	EFFECTIVENESS
	LCC	COST
	CAPABILITY VS. COST GRAPHS	SUPPORT EVALUATION
	ANNUAL TOTAL COST GRAPH	ALTERNATIVES COMPARISON
IMPLEMENTATION	INPUTS	BASIS OF PLAN
(AIIMS)	FORCE MODEL	ARCHITECTURE UPDATE
	-TOE	-UDS
	-BOI	-EQUIP DISTR
	-EQUIPMENT	-IMPL GUIDELINES TRANSITION STEPS
	CURRENT SYSTEMS	STATUS SPECIFIC UNITS
	SCHEDULES	IMPLEMENTATION PLAN
	-EQUIP ACQ/DISTR*	
	-TRAINING	
	-FIELDING	
ADDITIONAL	CRITICAL EVENTS	LC MANAGEMENT
(SYSTEM MANAGEMENT INFORMATION)	-MAJOR*	-SUMMARY*
	-DETAILED	-USASC
	FORCE IMPL SUMMARY	PREDICTED FORCE IMPLEMENTATION
		ARCHITECTURE UPDATE
	CONCEPT THRUST AND ADVANTAGES	-[illegible] CONCEPT
	FI[illegible]	-[illegible] PLAN

* Equipment Acq[illegible] and Distribution [illegible] with ma[illegible] [illegible]al events (Development Milest[illegible]) [illegible] the Life Cycle [illegible] Summary.

TABLE 2-IVA LIFE CYCLE MANAGEMENT SUMMARY

[illegible] [illegible], AN [illegible]-29 ([illegible])

[illegible]	[illegible]	FISCAL YEARS										
		79 & PRIOR	[illegible]	[illegible]	[illegible]	83	84	85	[illegible]	[illegible]	88	POST 88
UNITS PRODUCTION [illegible]	PER FY	0	6	9	12	1[illegible]	13					
	CUMULATIVE	0	[illegible]	9	21	3[illegible]	[illegible]					
	[illegible] AAO	0	0	9	21	34	47					
COST [illegible]	PER FY	0.0	[illegible].6	[illegible].3	[illegible].6	[illegible]	[illegible].1					
	CUMULATIVE	0.0	[illegible]	15.[illegible]	[illegible].5	[illegible]	[illegible].7					
[illegible]	PER FY	1[illegible]9.7	4.4									
	CUMULATIVE	[illegible]9.7	[illegible]									
PLAN[illegible] [illegible]		0	[illegible]	7	12	20	20	15	[illegible]	[illegible]		

[illegible]	[illegible] NOMENCLATURE	COST	79 & PRIOR	[illegible]	[illegible]	[illegible]	83	84	85	[illegible]	[illegible]	88	POST 88
[illegible]	ZG-[illegible]1 T[illegible]	.2K	0	0	14	24	40	40	30	[illegible]	[illegible]		
3	ZG-[illegible]2 [illegible]	.[illegible]K	0	0	14	24	40	40	30	[illegible]	[illegible]		

[illegible]	MILESTONES	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	4Q72 ([illegible] 72)		2Q74 ([illegible])
[illegible]	[illegible]			[illegible]Q72 ([illegible] 73)
[illegible]	[illegible]			[illegible]Q74 ([illegible])
[illegible]	[illegible]	[illegible]Q74 ([illegible] 74)		[illegible]
[illegible]	DT/OT II	2Q79 ([illegible] 79)		1Q[illegible] ([illegible])
	[illegible] IPR			[illegible]Q80 ([illegible])
	[illegible] (INITIAL)			[illegible]
	DT/OT III	4[illegible] ([illegible] 81)		[illegible]
	IOC			[illegible]

[illegible]

In summary, the Systems Management Information Program reports the inputs and outputs of ASEP and AIIMS with the additional information on concept and equipments as shown in Figure 2-6. It is intended to provide project officers and managers with timely reports and schedules. The inputs must be validated by the responsible agencies in order to obtain accurate outputs.

2.4.5 Systems Integration and Management Control and Guidance

Control is the process of insuring compliance with plans, or orders, directives, and policies and the initiation of correction action when necessary to accomplish the mission as scheduled. The means of determining the status of implementation at any given time is accomplished through the use of the System Management Information outputs.

As shown in Figure 2-7 comparison is made between the prediction (planned) and the current status (issue), the difference showing slippages or gains in the schedule. The results of such comparison provide the basis for formulation of directives to correct slippages or to inform appropriate agencies of the status. AIIMS helps in this control process by providing timely data regarding implementation status and progress and impacts of changes. ASEP supports the cost-effectiveness evaluation of changes in concept, system and equipment.

Approval and Guidance (Reference Figure 2-2)

The preceding actions are performed with approvals and guidance by higher headquarters. The principal vehicle used for these actions is the DA INTACS Steering Committee,[1] whose mission is to oversee the implementation progress of INTACS and provide guidance to the appropriate agencies in response to future changes in funding levels, doctrine, requirements and development program.

There is a requirement to update AR 15-23, INTACS Steering Committee to include recognition of SIMO responsibilities and to establish interfaces with DA for the required validated inputs. A draft AR 15-23 is at Inclosure 1 which incorporates the recommended changes.

In addition to the foregoing, systems engineering guidance is provided by Communications Research and Development Command Center for Systems Engineering and Integration (CORADCOM-CENSEI). Additional approval and guidance is provided within the normal chain of command,

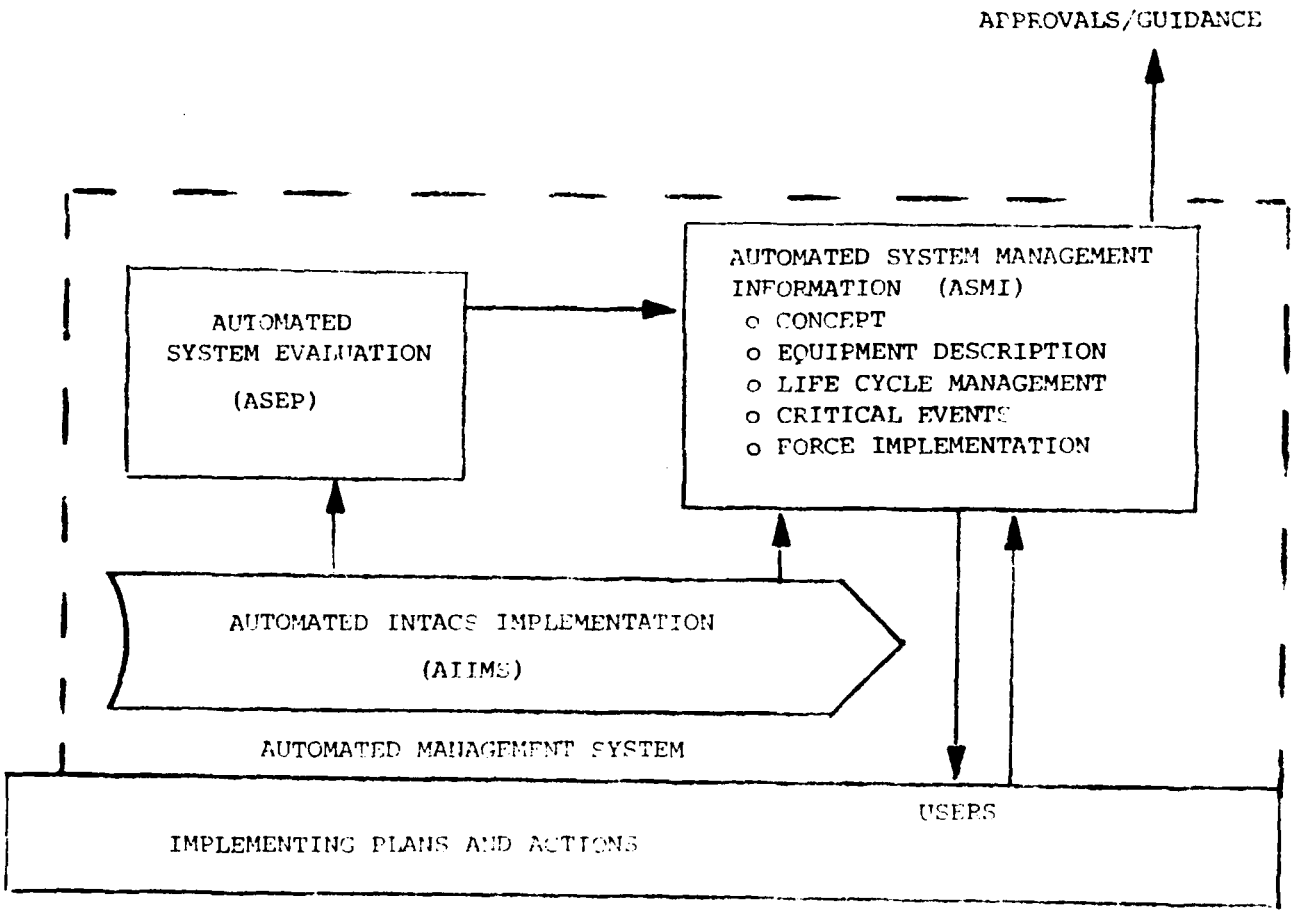


Figure 2-6 AUTOMATED SYSTEM MANAGEMENT INFORMATION

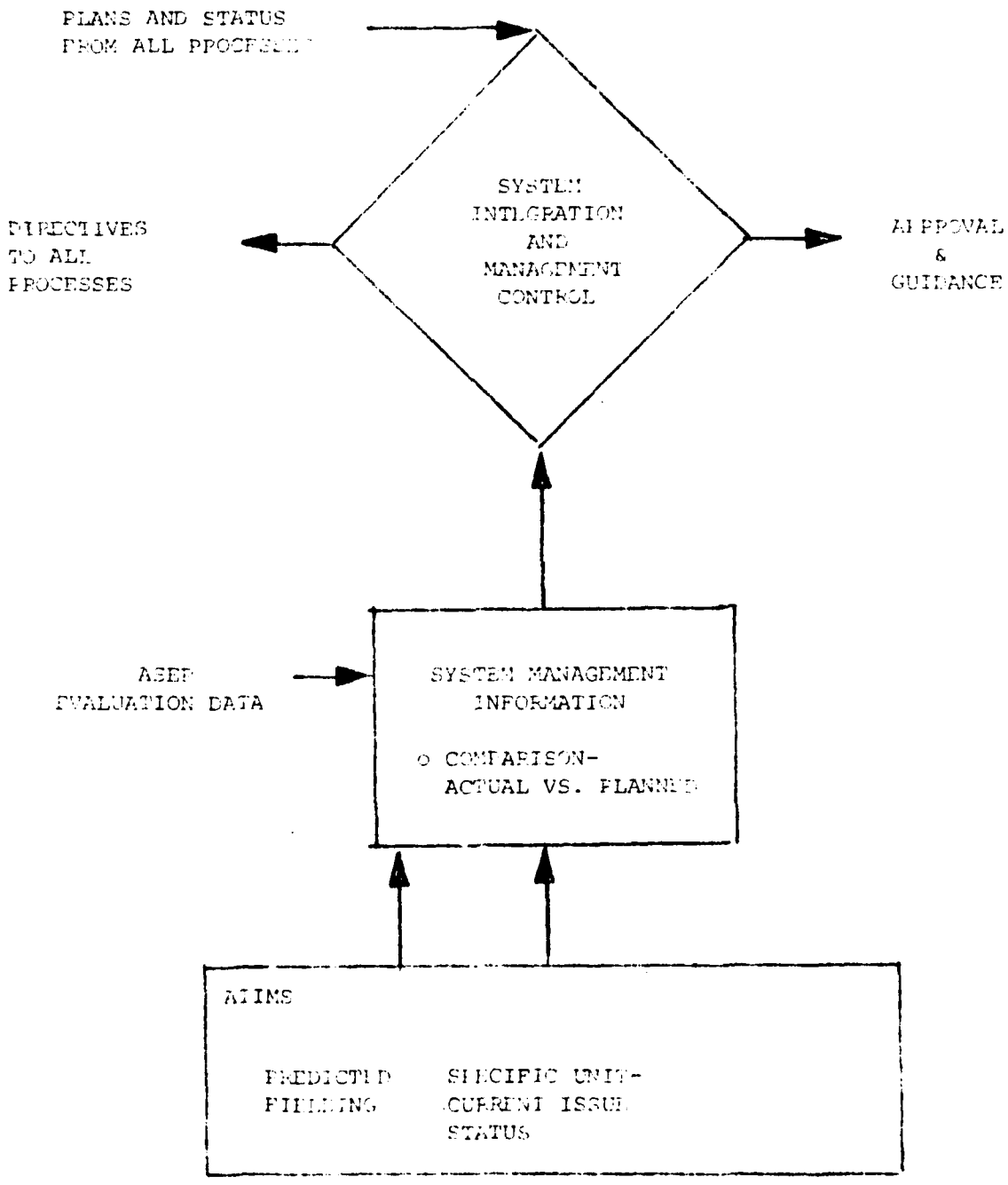


Figure 2-7 System Integration and Management Control

e.g., HQ TRADOC, especially as relates to the implementing activities shown across the bottom of Figure 2-2.

Implementing Activities (Reference Figure 2-2)

The loop is closed by approval and guidance given to all of the implementing activities. Foremost are the planning, programming actions which are subject to revision caused by engineering and budgetary actions. Thus, any disapproval or modification of prior approval will drive the process back through the system architecture and transition planning processes.

The development and acquisition processes are in conformance with the Life Cycle Management procedures[7] which starts with the formulation of the hardware concept, and proceeds to the Cost and Operational Effectiveness Analysis (COEA) and the development of the Organizational and Operational (O&O) Concept. Thereafter, it is necessary to formulate doctrine, TOE's, training plans and material and the Integrated Logistic Support packages.

Actual status inputs from these implementing actions close the loop back to system architecture and to the system integration control processes. This cyclic methodology accomplishes the previously stated objectives and goals through maximum use of ADP techniques in the AIIMS, the automated System Evaluation Program (ASEP), and the System Management Information Program.

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[7] DA PAM 11-25, [illegible] for the Management of Materiel for Army Systems

2.5 INTACS Management Procedures

Effective management is essential to the performance of the various functions and tasks involved in systems integration, evaluation, architecture and transition planning. Procedures are the steps for performing activities that are necessary to effectively manage INTACS. The procedures relate to the internal organization of Systems Integration and Management and to external organizations/agencies. The procedures relate also to several documents developed by the Systems Integration and Management Organization. 1) INTACS Architecture, Hq USASC, May 1979; 2) Transition Architecture Requirements, Hq USASC, July 1979; 3) INTACS Transition Plan; 4) Automated Management System User Manuals (currently in preparation) to contain AIIMS Reports and Programs, ASEP Reports and Programs, and System Management Information Reports and Programs.

Using the Management Methodology previously described in Section 2.4, this section provides brief procedures on system changes evaluation, architecture refinement, transition planning, automated reporting and controls.

2.5.1 System Changes Evaluation

One of the INTACS management goals is the accommodation of changes and the analysis of proposed conceptual refinements to the total system including the current, transition and objective phases. The following procedures assure that the impacts of such changes are evaluated and results implemented. As shown in preceding Figure 2-1, changes are in two categories: Implementation (schedules; budget; equipments) and system concept;(doctrine; mission; technology; equipments). Examples of these changes are listed below:

- Implementation changes
  - Equipment availability
  - Equipment cost
  - Budget
  - Unit priority
  - Etc.

o System Changes

-doctrine

-mission

-TOE

-New Equipment or product improvement

Upon receipt of an official or proposed change from an authorized office, the System Integration and Impact Evaluation element of organization will conduct the following steps:

A. Implementation changes

1. Analyze implementation-type changes to identify expected impacts.
2. Incorporate the changed input and rerun the AIIMS predicted acquisition, training and fielding schedules. Run the Force Implementation Summary.
3. Compare revised results with previous predictions to determine and present the degree of impacts of change.

B. System Changes

1. Analyze changes to identify expected impacts, and portray significant changes in system architecture terms.
2. Select base system time phase (current; transition-early, mid, late; objective), force constituents and type equipments to be considered in the evaluation, and input to TOELIST program of ASEP. Run for the base system. (See sample in Appendix B of the Study)
3. Use TOEBOIPUP Program to modify the base system to represent the alternative candidate by adding deleting equipment assignments.
4. For the candidate, input the following basic equipment and personnel data to MOETOELIST and run the program: Weight, Volume, Power, Preventive Maintenance with and without test equipment, Corrective Maintenance with and without test equipment, Number of personnel, Number of Vehicles, and Number of Secure Transceivers.

5. For the candidate, input hardware, training, and pay cost factors and number of years in the life cycle. Run the life cycle cost program.
6. Select options of Cost (resources) vs. Capability (attributes) to be graphed. (See Appendix B of the Study.) Provide MOE and LCC required by the selected options. Convene a System Evaluation Process Panel to determine any MOE not available from detailed analyses and models. (See INTACS, Task XV Final Report) Run Cost Vs. Capability Graphs. Run Annual Total Cost Graph for current and candidate systems.
7. Present the graphs along with detailed MOE and LCC as evaluation evidence for or against the change.

2.5.2 Architecture Refinement

The INTACS Architecture is flexible and its documentation is periodically updated to reflect new requirements, equipment and doctrinal changes. These changes are incorporated by directly using the automated System Management Information reports to a large extent. Procedures for changes in Concept, Communications Support and Implementation Guidelines follow:

A. INTACS System Concept

1. Input approved refinements of the concept to the table on Transition Concept Summary in the automated System Management Information Program. (See Appendix C of the Study)
2. Revise Architecture Chapter 1 to contain the concept table and to reflect details of the refinements in the transition and or Objective Systems.

B. Communications Support Plan

1. Input approved Unit Description refinements to the appropriate Force-Equipment Model eg. F-5, Objective System, in AIIMS.
2. Revise Architecture Chapter 2, Section 1 to reflect refinements of Unit Descriptions using the Force Model TOE printout.

3. Input approved Transitional/Objective Equipment Descriptions refinements to the automated System Management Information.

4. Revise Architecture Chapter 2, Section 2 to contain the printed Equipment Description Sheets and to reflect refinements in Equipment Descriptions. Extract BOI from AIIMS to update the INTACS BOIP section on distribution of major equipments.

C. Implementation Guidelines

1. Input refinements to Force Models F-2, F-3, or F-4 which represent transition phases between F-1, ATACS TOE and F-5, Objective System.

2. Revise Architecture Chapter 3 to include modified illustrations that depict the force models. Reflect refinements in other Implementation Guidelines to include interoperability.

2.5.3 Transition Planning

Procedures on how transition implementation planning is automated and how the resultant outputs are utilized are defined in the Transition Plan. The working data and implementation information reside in AIIMS. Alternative and selected implementation strategies are discussed. Description and procedures are provided on inputs, force-equipment models and formats, and current status of specific units. Procedures for predicted equipment acquisition, personnel and training requirements are included also in the Transition Plan.

2.5.4 Automated System Management Information Reporting

Reporting of System Management Information encompasses all the outputs of the Automated Management System, including candidate Evaluation Data, Implementation Schedules, Summaries and Equipment Lists. Some reports are anticipated to be on automatic distribution to specific offices/agencies/headquarters once per quarter. Distribution of plans and status reports is expected at working, Steering Committee and high level meetings by the Headquarters Element of Systems Integration and Management. To permit time for analysis the reports may be mailed to the conferees prior to a conference/briefing based upon need. Another alternative is to permit limited, controlled access by users to AIIMS on a "Read Only" basis. This would provide the effect of fast mail for organizations such as: HQ DA-DCSRDA, HQ DA, ACSAC (DAAC-SI), HQ TRADOC (DCSCD), HQ USACC, HQ DA DCSLOG, CORADCOM-CENCOMI.

All of the automated reports are controlled by System Integration Team but are actually provided by the Transition Implementation Element which is in charge of the Automated Management System. For the reports on automatic periodic distribution, they have the responsibility of assuring timeliness and that the proper individuals have validated information in the reports. In addition to validating all reports in their respective areas, each element of the organization has responsibility for obtaining and either distributing or preparing briefs on a report set.

A report set is defined for each organizational element of System Integration and Management to support their specific functions and tasks. Each report set contains several reports depending on the requirements. Table 2-V lists the reports as related to System Integration and Management organization elements and functions on the left and to other principal and supported organizations on the right. Functions of the organization element in the left column are aligned with required inputs and the report set that supports the function. Principal and supported organizations listed in the right column provide inputs and receive the reports or briefs of tasks which the report set supports.

TABLE 2-V. SYSTEM INTEGRATION AND MANAGEMENT INFORMATION RELATIONSHIPS

SYSTEM INTEGRATION & MANAGEMENT ORGANIZATION/FUNCTION	ADP INFORMATION INPUTS	ADP INFORMATION REPORT SET	OTHER ORGANIZATIONS PRINCIPAL*	OTHER ORGANIZATIONS SUPPORTING
HQ				
PLAN SUMMARIES, REPRESENT USASC		SELECTED LIFE CYCLE (LC) MANAGEMENT SUMMARIES OF SPECIAL INTEREST	STEERING COMMITTEE AUTOMATION/COMM	DCD, USASC
		TRAINING, FIELDING SCHED'S	TRADOC	CACDA
		BUDGET-FORCE IMPL SUMMARY,	MANAGEMENT INFO, SEC DIR	
		SPECIFIC STATUS		DESCOM
SYSTEM ARCHITECTURE AND EVALUATION				
EVALUATION:				
IMPLEMENTATION CHANGES (ACTUAL & HYPOTHETICAL)	BUDGET, FORCE, EQUIP CHANGES	SELECTED LC SUMMARIES FORCE-EQUIP BY YR		
ALTERNATIVE CONCEPTS	CANDIDATE EQUIP DATA & PERSONNEL COST FACTORS OTHER MOE	CANDIDATE TOE & MOE LCC GRAPHS	OPS RESEARCH	CAA TRASANA
ARCHITECTURE:				
CONCEPT	DEFINITION	THRUST/ADVANTAGES	DARCOM COMM COMMAND	CORADCOM, NSA, TRI-TAC, SATCOMA
COMM SUPPORT		TOE/UDS, EDS, BOI		
IMPLEMENTATION GUIDELINES		FORCE-EQUIP FORMAT - TRANSITION MODELS - PREDICTED SPECIFIC SYSTEM		

* MEMBER INTACS STEERING COMMITTEE

TABLE 2-V SYSTEM INTEGRATION AND MANAGEMENT INFORMATION RELATIONSHIPS (Con't)

SYSTEM INTEGRATION & MANAGEMENT ORGANIZATION/FUNCTION	ADP INFORMATION: INPUTS	ADP INFORMATION: REPORT SET	OTHER ORGANIZATION: PRINCIPAL*	OTHER ORGANIZATION: SUPPORTED
TRANSITION PLANNING				
STRATEGY CONSTRAINTS UTILIZATION PROCEDURES SUPPORTS OTHERS	CURRENT STRATEGY & STATUS	TOTAL SET: INPUTS, LC SUMMARY, CRITICAL EVENTS, SCHEDULES, FORCE-EQUIPMENT LISTS ON MODELS & PREDICTED SPECIFIC SYSTEMS	AUTOMATION/COMM, OPS, INTEL, INSCOM	MSD, ORG, TSM, PM, TESTING, TRAINING, LOGISTICS, OTHER SVCS, DESCOM, ACTION OFF
TRANSITION IMPLEMENTATION				
ADP DATA BASES	DEVELOPMENT & REFINEMENT			
CURRENT SYS. DESCRIPTION	CURRENT STATUS	SPECIFIC ISSUE		
PREDICTED SYSTEMS	FORCE & PRIORITY EQUIP AVAIL & ISSUE	FORCE-EQUIPMENT LISTS	FORSCOM, OPS	CORADCOM, MSD
	BUDGET & COST	EQUIP. ACQ	COMPTROLLER	
	CRITICAL EVENTS	LC SUMMARY	RESEARCH, DEV & ACQ	
	PERSONNEL & TRAINING REQT	TRAINING SCHED	PERSONNEL	[illegible] & TRAINING
	LOG FACTORS	FIELDING SCHED	LOGISTICS	

* MEMBER INTACS STEERING COMMITTEE

Only the changes in the first report set are provided by the Hq element to each of the 13 members of the INTACS Steering Committee Working Group once per quarter for their scheduled meetings when required for their deliberation. Only the Life Cycle Management Summaries of special interest for the particular meeting are provided. The same report set is provided each of the 13 members of the INTACS Steering Committee convening slightly later once per quarter. This report set summarizes the Implementation Plan and provides status as derived from Depot Support Command (DESCOM) input. A similar report set is provided to each conferee at other anticipated high level conferences once per quarter.

The inputs and report sets listed in the lower half of the table support the System Integration and Impact Evaluation element to evaluate implementation and concept changes and to update the System Architecture. The evaluation set is anticipated once/year, and the architecture set is used to update System Architecture documentation annually.

Transition Planning Element is concerned with procedure development and requires the total set of reports once per year. This same report set is used to support the other organizations listed on the continuation of Table 2-V.

Transition Implementation Element utilizes the inputs, and provides the foregoing output reports according to the procedure developed by Planning. In addition, the reports listed on the lower half of the continuation Table 2-V which reflect inputs are given to the principal and supported organizations who provide the inputs.

2.5.5 Controls and Guidance

System Integration and Management effectiveness depends on the following control procedures related to planning:

1. Compare actual status of systems in the field with Transition Plan and Implementation Schedules using outputs from AIIMS.
2. Direct cost-effectiveness impact evaluation of any implementation and or concept changes which are actual or hypothetical.
3. Provide automated System Architecture/Integration/ Assistance and guidance to the evaluation effort.
4. Coordinate the submission of convincing evaluation data evidence to the INTACS Steering Committee for or against the change under analysis.
5. Obtain Steering Committee approval for action and guidance to implementing activities.
6. Submit updated System Management Information reports on current and predicted implementation of INTACS.
7. Acquire and maintain actual status on all aspects of the implementation of current systems in the field.

3.0 ORGANIZATION, FUNCTIONS AND OUTPUTS

The Systems Integration Management Office is organized as shown in Figure 3-1 and performs for the Directorate of Combat Developments that part of the mission dealing directly with INTACS management, coordination, and integration of activities from the current through transition to the Objective System. To perform this mission the functions and outputs listed on Table 3-I are assigned to SIMO.

The supporting tasks and outputs of each of the three teams are listed on Tables 3-II, 3-III and 3-IV. Examples of the type documentation reviewed and responded to are included as Table 3-IIA.

The outputs and inputs-integration of AIIMS are shown on Table 3-V and Figure 3-1. The outputs of ASEP are listed on Table 3-VI. Finally, the total information provided periodically to users from ASMI are listed on Table 3-VII.

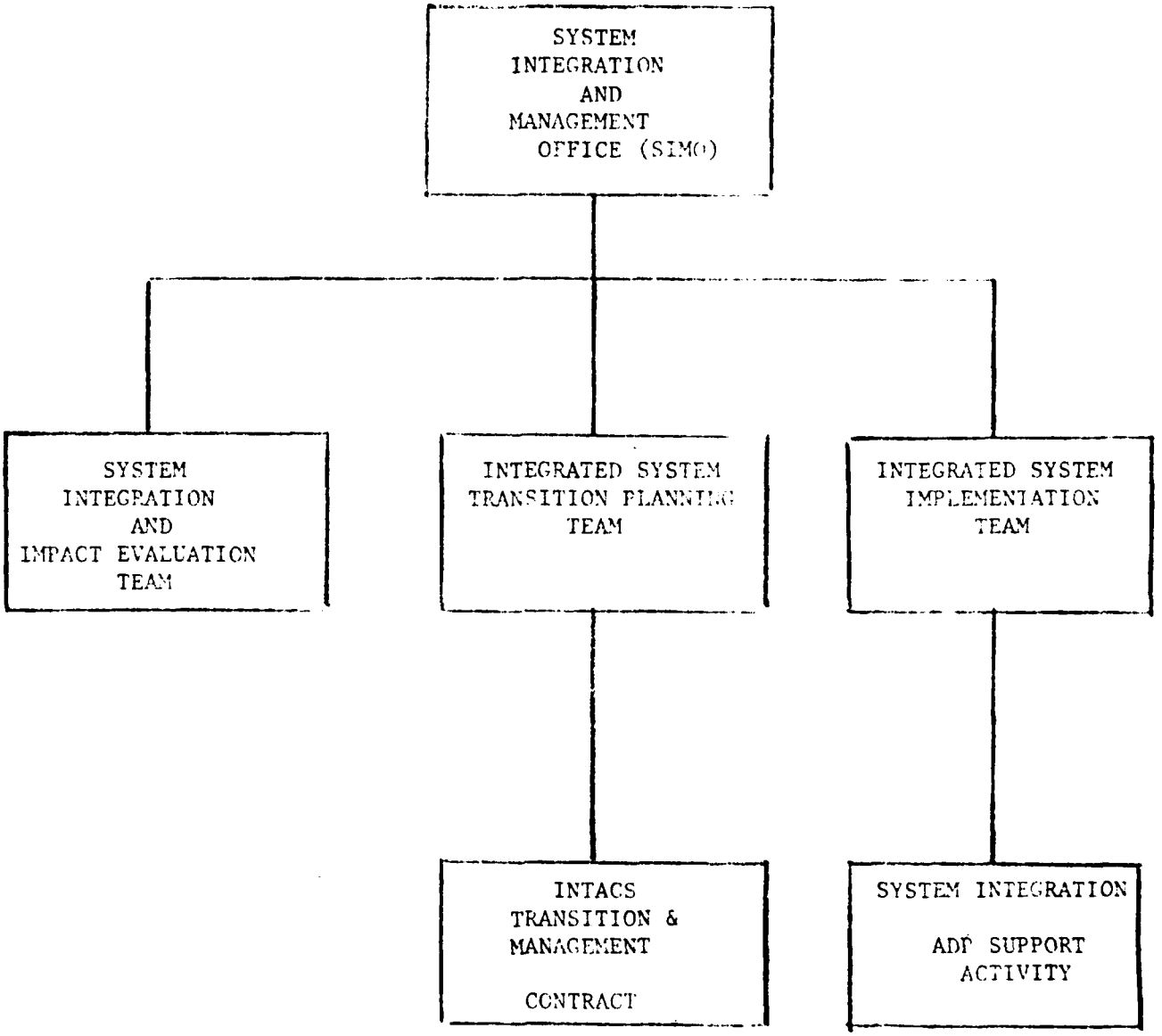

Figure 3-1 SYSTEM INTEGRATION AND MANAGEMENT OFFICE ORGANIZATION

TABLE 3-I

SYSTEM INTEGRATION &

MANAGEMENT OFFICE

MISSION: SYSTEM INTEGRATION, MANAGEMENT AND IMPLEMENTATION

FUNCTIONS:

1. PROVIDES SYSTEM MANAGEMENT PLANNING AND CONTROL
2. PERFORMS AS PRIMARY STAFF ADVISOR AND COORDINATOR OF INTACS IMPLEMENTATION
3. PROVIDES SYSTEM MANAGEMENT INFORMATION ON INTEGRATED SYSTEM IMPLEMENTATION
4. CONDUCTS BRIEFING ON INTACS IMPLEMENTATION AND ADP SUPPORT ACTIVITIES
5. REPRESENTS USASC&FG AT CONFERENCES AND PERFORMS LIAISON FOR INTACS IMPLEMENTATION
6. PROVIDES SYSTEM INTEGRATION ARCHITECTURE IMPLEMENTATION AND EVALUATIONS
7. PROVIDES INTEGRATED SYSTEM TRANSITION PLANNING
8. PROVIDES INTEGRATED SYSTEM IMPLEMENTATION REQUIREMENTS
9. PROVIDES SYSTEM INTEGRATION ADP SUPPORT
10. SUPPORTS TSM'S AND USASC&FG DIRECTORATES

OUTPUTS:

1. DEVELOPED, UPDATED AND COORDINATED IMPLEMENTATION OF THE INTACS TRANSITION PLAN
2. COORDINATED INPUT FOR ALL ASPECTS OF INTACS & ALL OTHER RELATED SYSTEM REQUIREMENT.

TABLE 3-II

SYSTEM INTEGRATION &

IMPACT EVALUATION TEAM

TASKS:

1. MAINTAINS & UPDATES APPROVED SYSTEM ARCHITECTURE; COORDINATES, INTEGRATES, ISSUES SOURCE ARCHITECTURE DOCUMENTS
2. CONTROLS & ISSUES SYSTEM MANAGEMENT INFORMATION ON INTEGRATED SYSTEM IMPLEMENTATIONS *
3. REFINES & EXPANDS CONCEPTS; EVALUATES REFINEMENTS
4. PROVIDES ASSISTANCE AND GUIDANCE FOR DOCTRINAL AND CONCEPTUAL STUDIES
5. MANAGES SYSTEM INTEGRATION ADP SUPPORT ACTIVITIES
6. SUPPORTS TSM'S AND USASC&FG DIRECTORATES CONCERNED WITH INTACS COORDINATION, INTEGRATION AND IMPLEMENTATION
7. IMPLEMENTS VALIDATED INTEGRATED SYSTEM REQUIREMENTS
8. PROVIDES ACQUISITION PRIORITIES AND FUNDING PROFILES

*OUTPUTS - SYSTEM MANAGEMENT INFORMATION:

1. LIFE CYCLE MANAGEMENT SUMMARIES
2. EQUIPMENT CRITICAL EVENTS
3. FORCE - EQUIPMENT LISTS FOR TRANSITION MODELS AND SPECIFIC SYSTEMS
4. MANAGEMENT SCHEDULES
5. COST EFFECTIVENESS EVALUATION DATA FOR PROPOSED OR ACTUAL REFINEMENTS
6. PRIORITY LISTS
7. EQUIPMENT DESCRIPTION SUMMARIES
8. SYSTEM IMPACT/SHORTFALL IDENTIFICATION

TABLE 3-IIA SYSTEMS PLANNING DOCUMENTS

1. REVIEWS AND RESPONDS TO DOCUMENTATIONS REGARDING INTEGRATED SYSTEMS PLANNING, SUCH AS:

- NATO STANDARDS
- NATO TELECOMMUNICATIONS
- QUADRIPARTITE
- FIELD MANUALS
- TECHNICAL MANUALS
- O&O CONCEPTS
- INTACS UPDATE MAA
- DIV 86, CORPS 86, EAC 86
- EQUIPMENT PERFORMANCE SPECIFICATIONS
- ENGINEERING CHANGE PROPOSALS (ECPs)
- TRI-TAC DOCUMENTS
- ACC/DCS DOCUMENTS
- OTHER JOINT SERVICE & SISTER AGENCIES DOCUMENTATION
- TOE/BOIP PLANS
- FORCE MODERNIZATION

TABLE 3-III

INTEGRATED SYSTEM

TRANSITION PLANNING

TEAM

TASKS:

1. DEVELOPS IMPLEMENTATION STRATEGY
2. DEVELOPS, UPDATES AND MANAGES TRANSITION PLANS
3. DEVELOPS AND MONITORS DEPLOYMENT FOR MATERIEL DISTRIBUTION
4. PROVIDES SUPPORT FOR BAISEMP
5. DEFINES CONSTRAINTS AND PROCEDURES FOR ADP MODELING AND TRANSITION PLANNING
6. SUPPORT TSM'S AND USASC&FG DIRECTORAGES CONCERNED WITH INTACS COORDINATION, INTEGRATION AND IMPLEMENTATION

OUTPUTS:

1. SPECIFICATION AND ANALYSIS DATA IN SUPPORT OF BAISEMP, NATO, JOINT SERVICE AND OTHER INTEROPERABILITY PROGRAMS; TSM'S, SIGNAL CENTER DIRECTORATES, AND SISTER AGENCIES
2. IMPLEMENTATION STRATEGIES AND PLANS, AMENABLE TO ADP SUPPORT, FOR THE TRANSITION FROM CURRENT TO OBJECTIVE SYSTEMS
3. CONSTRAINTS AND PROCEDURES FOR THE DEVELOPMENT AND UTILIZATION OF ADP MODELING AND TRANSITION PLANNING

TABLE 3-IV

SYSTEM INTEGRATION

IMPLEMENTATION & ADP

SUPPORT ACTIVITY

TASKS:

1. DEVELOP, UPDATE AND MANAGE AUTOMATED TRANSITION PLANS (ATP)
2. DEVELOP AND MAINTAIN AUTOMATED PROCEDURES AND UP-TO-DATE IMPLEMENTATION SCHEDULES
3. DEVELOP AND MAINTAIN AUTOMATED YEAR BY YEAR EQUIPMENT REQUIREMENTS
4. DEVELOP AND MAINTAIN AUTOMATED SYSTEMS EVALUATION PROGRAM (ASEP)
5. DEVELOP AND MAINTAIN AUTOMATED LIFE CYCLE MANAGEMENT SUMMARIES PROGRAM (ALCMSP)
6. DEVELOP AND MAINTAIN AUTOMATED EQUIPMENT CRITICAL EVENT SUMMARIES PROGRAM (AECESP)
7. DEVELOP AND MAINTAIN ALL AIIMS DATA BASE ELEMENTS
8. DEVELOP AND MAINTAIN ALL ASMI DATA BASE ELEMENTS
9. DEVELOP, UPDATE AND MAINTAIN ALL ADP DATA BASE ELEMENTS

OUTPUTS:

1. AIIMS - AUTOMATED INTACS IMPLEMENTATION MANAGEMENT SYSTEM
2. ASEP - AUTOMATED SYSTEM EVALUATION PROGRAM
3. ASMI - AUTOMATED SYSTEM MANAGEMENT INFORMATION

TABLE 3-V

AIIMS OUTPUTS

FORCE - EQUIPMENT

1. EQUIPMENT IDENTIFICATION LIST
2. EQUIPMENT SUMMARY BY FORCE
3. EQUIPMENT ASSEMBLAGES BY FORCE
4. COMPONENTS TO ASSEMBLAGES BY FORCE
5. END ITEM ASSOCIATED/ANCILLARY EQUIPMENT LIST BY FORCE
6. BOI FILE BY FORCE
7. TOE FILE BY FORCE
8. EQUIPMENT REQUIREMENTS BY FORCE BY YEAR
9. EQUIPMENT DISTRIBUTION BY DAMPL FORCE

MANAGEMENT SCHEDULES

1. EQUIPMENT PROCUREMENT LIST
2. PROCUREMENT AND LIFE CYCLE MANAGEMENT SCHEDULE
3. ANNUAL EQUIPMENT PURCHASE LIST
4. CUMULATIVE EQUIPMENT PURCHASE BY YEAR
5. PREDICTED OBJECTIVE SYSTEM COMPLETION
6. FIELDING SCHEDULES

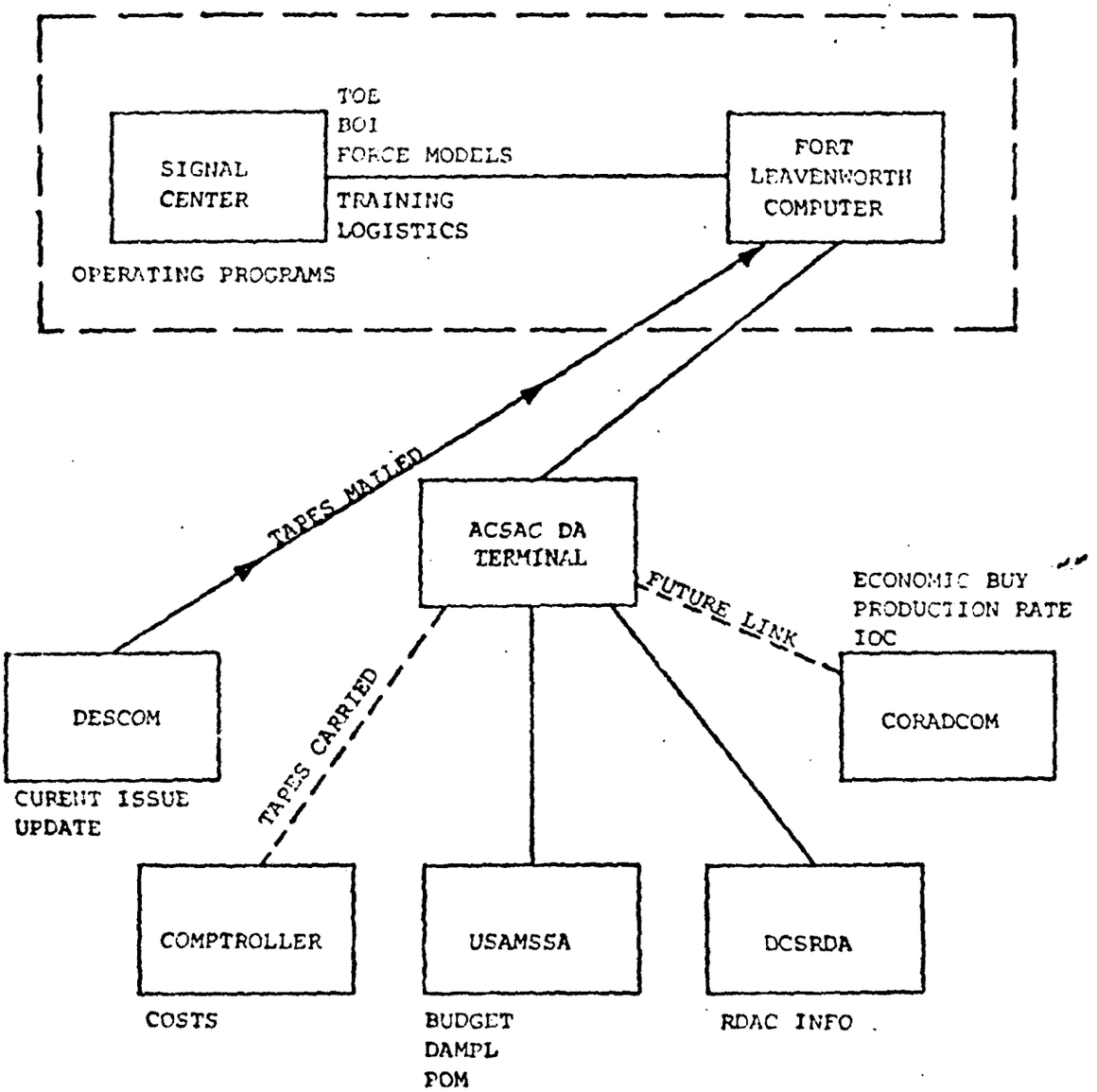

FIGURE 3-1 AIIMS INPUTS INTEGRATION AND UPDATE

TABLE 3-VI

- AUTOMATIC SYSTEM EVALUATION PROGRAM (ASEP)
  - AUTOMATED BASE SYSTEM AND CANDIDATE DESIGNS USING EQUIPMENT FOR SPECIFIC FORCE
  - OPERATIONAL EFFECTIVENESS INFORMATION USING AUTOMATED MOE/FORCE PROGRAM
  - FORCE/EQUIPMENT COST USING AUTOMATED LC COST PROGRAMS
  - SUPPORT EVALUATION PROCESS THROUGH AUTOMATED CAPABILITY VS COST PROGRAM
  - SUPPORT EFFECTIVE ALTERNATIVES COMPARISON THROUGH ANNUAL TOTAL COST PROGRAM
  - PROVIDE SYSTEM IMPACT EVALUATIONS CONCERNING:
  -
    - SHORTFALLS
    - BUDGET CUTS
    - PROGRAM/EQUIPMENT STATUS
    - INTEROPERABILITY & INTERFACE PROBLEM
    - INTACS TRANSITION VS FORCE MODERNIZATION
    - SYSTEM TRAINING IMPACTS
    - ILS VS SYSTEMS IMPLEMENTATION
    - WHAT "IF" APPLICATIONS

TABLE 3-VII

- AUTOMATED SYSTEM MANAGEMENT INFORMATION (ASMI)

  - EQUIPMENT LCM SUMMARIES
  - EQUIPMENT CRITICAL EVENT SUMMARIES
  - EQUIPMENT DESCRIPTION SUMMARIES
  - ACQUISITION PRIORITIES LISTS & FUNDING PROFILES
  - BUDGET FORECAST
  - PROGRAM/EQUIPMENT STATUS
  - SYSTEM & EQUIPMENT IMPLEMENTATION SCHEDULES
  - ASEP OUTPUTS TO SUPPORT ORG & C&S ACTIVITIES
  - AIIMS SUBSETS TO SUPPORT PROJECT ACTIVITIES
  - RED FLAG REPORTS
  - BASE FORCE MODELS
    1. F1 - ATACS EQUIPMENT/80 POM FORCE
    2. F2 - IMPROVED INTACS/82 POM FORCE
    3. F3 - NEW EQUIPMENT INTEGRATION/84 POM FORCE
    4. F4 - BASE DIGITAL SYSTEM/86 POM FORCE
    5. F5 - INTACS OBJECTIVE SYSTEM/OBJECTIVE POM FORCE
  - BASE FORCE MODEL OUTPUTS
    1. EQUIPMENT IDENTIFICATION LIST
    2. EQUIPMENT SUMMARY BY FORCE
    3. EQUIPMENT ASSEMBLAGES BY FORCE
    4. COMPONENTS TO ASSEMBLAGES BY FORCE
    5. END ITEM ASSOCIATED/ANCILLARY EQUIPMENT LIST FOR FORCE
    6. BOI FILE BY FORCE
    7. TOE FILE BY FORCE

4.0 RESOURCES

Previous sections described the Management Methodology and Procedures necessary to achieve the objectives and goals for the INTACS. Also defined were the mission functions and outputs. Functional relationships within the System Integration Management organization and with coordinating offices/agencies internal and external to USASC have been considered. The management relationships of SIMO are unusual because of the involvement with many agencies. All those engaged in tactical communications activities are involved because the actual implementing actions of other agencies must be known to Systems Integration while information on architecture, integration and planning actions must be provided by Systems Integration. Therefore close coordination is required with all organizations in the area of tactical communications. This is indicated in the preceding description of methodology and is shown in detail by the matrix relationship in Table D-1 Contractor Management Plan in Appendix D.

This section defines the organization and the resources needed to perform the mission functions, to include personnel, Automatic Data Processing (ADP) and Space requirements. Consideration has been given to staffing levels, education and experience requirements for personnel. Figure 4-1 shows the SIMO Organization and Personnel.

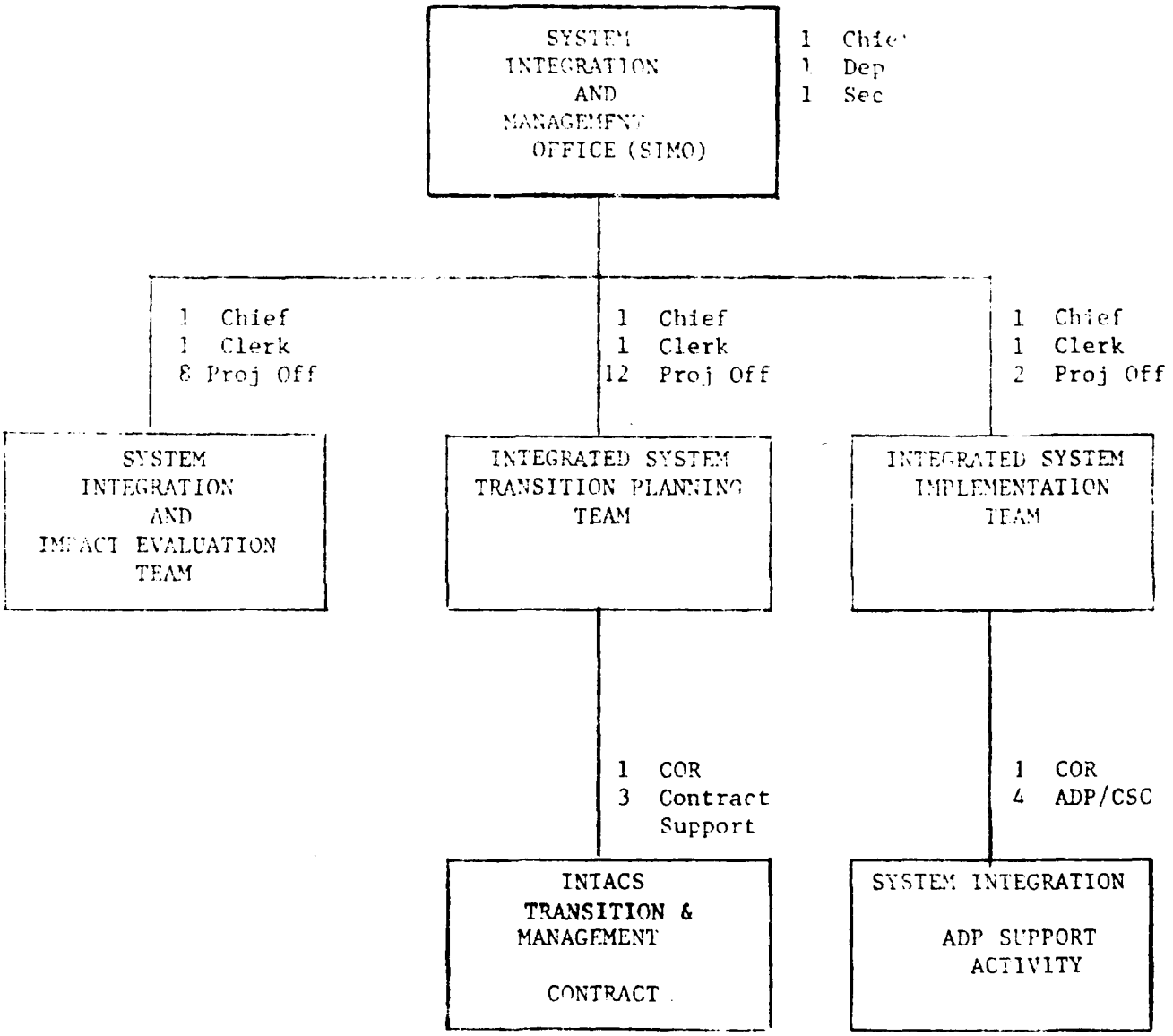

FIGURE 4-1

SYSTEM INTEGRATION AND MANAGEMENT OFFICE

ORGANIZATION AND PERSONNEL

4.1 Organization and Personnel (Figure 4-1)

4.1.1 Tasks and Manpower Survey

Tasks and manday requirements for FY-81 were developed for the appropriate functions and organizational elements. Also developed were the manday requirements for support functions such as clerical/administrative work and nonproductive time (annual leave, sick leave). The CACMIS/TRAMIS computer run, Table 4-1, shows the total manyear requirements for FY-81. Part I provides summaries of manday requirements by priorities including support, by planning category and by FY Quarters. Part II provides the required and programmed manday requirements for each ACN Task listed by month for all priorities. Since a year is considered to be 250 duty days, Group 1 and 2A plus 7,8,9 Priorities are equatable to authorized resource of 15 Spaces on TDA. Group 2B plus additional 7,8,9 resources are equatable to required but not authorized resources on TDA. Group 3 are equatable to required resource allocated to contractual efforts.

Exceptions resulting from changes from Integration Teams, MSD to SIMO, DCD are as follows:

No CACMIS/TRAMIS or TDA allocation for Overhead; ACN 29055(2B) and 23442(3) are transferred back to MSD; and ACN 24251 is transferred from MSD to SIMO. Adjusted requirement based on a 250 day manyear is for 33 personnel, plus MMC and CSC contractor support, with 14 Spaces authorized under MSD, and 18 Spaces required under SIMO.

...PCNT 95-005 FY - 81 OPERATING PROGRAM FOR: SYSTEMS INTEGRATION MGT BR RUN DATE: 15 SEP 80
PART I - PLANNING SUMMARY (COST CENTER 042) EFFECTIVE DATE: 11 SEP 80

MANDAYS (MD) BY PRIORITY STATUS	TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1 HIGHEST PRIORITY/FULLY RESOURCED	1,330	131	100	110	106	108	117	120	90	170	120	105	105
2A HIGH PRIORITY/PARTIALLY RESOURCED	1,330	113	103	113	110	110	118	116	108	113	106	116	113
2B ... PRIORITY/MINIMALLY RESOURCED													
3 LOW PRIORITY/DEFERRED													
4 COMPLETE/DELETE													
7 SUPPORT/MISSION	532	43	44	50	40	46	52	48	40	40	40	43	43
8 SUPPORT/MISCELLANEOUS	266	22	22	22	22	22	22	22	22	22	22	22	22
9 SUPPORT/NON-PRODUCTIVE	377	15	20	45	54	20	21	26	40	35	44	25	30

NOTE: CATEGORIES 7 - 9 HAVE PRIORITY RELATIVE TO SUPPORTED CATEGORIES 1 - 29

... PLANNING CATEGORY	TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL REQUIRED	3,715	744	589	733	737	707	745	752	711	744	723	724	703
TOTAL PROGRAMMED	3,833	330	289	330	330	304	330	330	300	330	330	315	315
TOTAL EXPENDED													
REQUIREMENTS NOT PROGRAMMED	4,383	414	399	403	407	403	415	422	411	414	393	409	393
... AUTHORIZED RESOURCES	3,780	330	270	330	315	285	330	330	300	330	330	315	315
TOTAL RESOURCES	1,512	132	108	132	126	114	132	132	120	132	132	126	126
RESOURCES NOT PROGRAMMED													
RESOURCES OVERPROGRAMMED	2,321	193	181	193	204	190	198	198	180	198	199	189	189

QUARTERLY SUMMARY ... REQUIREMENTS	1 QTR MD	%	2 QTR MD	%	3 QTR MD	%	4 QTR MD	%	TOTAL MD	%
TOTAL REQUIRED	2,155	100	2,199	100	2,207	100	2,155	100	3,715	100
TOTAL PROGRAMMED	949	43	954	44	960	43	950	44	3,833	43
TOTAL EXPENDED										
REQUIREMENTS NOT PROGRAMMED	1,215	55	1,225	55	1,247	56	1,195	55	4,883	56
... AUTHORIZED RESOURCES	930	42	930	42	960	43	960	44	3,780	43
TOTAL RESOURCES	372	17	372	16	384	17	384	17	1,512	17
RESOURCES NOT PROGRAMMED										

TCN - TIME REPORTING SYSTEM OPERATING PROGRAM FOR: SYSTEMS INTEGRATION MGT BR RUN DATE: 15 SEP 80
... PLANNING GUIDANCE (COST CENTER 042) EFFECTIVE DATE: 11 SEP 80

RCV - TIME REPORTING SYSTEM
PART II - PLANNING GUIDANCE

OPERATING PROGRAM FOR SYSTEMS INTEGRATION MGT 9R
(COST CENTER 042)

RUN DATE: 15 SEP 80
EFFECTIVE DATE: 11 SEP 80

A. PRIORITY

GROUP 1 - HIGHEST PRIORITY (90% RESOURCED OR MORE)

TYPE ENTRY SCN	PROJECT TITLE		TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
M 59320	INTACS INTEGRATION	RED	1330	131	100	110	104	108	117	120	90	120	120	105	105
	COMP DATE 362	PRO	1330	131	100	110	104	108	117	120	90	120	120	105	105
	WORK UNIT DEVS	EXP													

COMPUTED PRIORITY EQUATES TO: QTR 1 1 QTR 2 1 QTR 3 1 QTR 4 1

			TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
	GROUP 1 - TOTALS	RED	1330	131	100	110	104	108	117	120	90	120	120	105	105
		PRO	1330	131	100	110	104	108	117	120	90	120	120	105	105
		EXP													

GROUP 2A - HIGH PRIORITY/PARTIALLY RESOURCED (75-89%)

TYPE ENTRY SCN	PROJECT TITLE		TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
I [illegible]	NON-PROPONENT C-E ACTIONS	RED	256	22	17	22	21	19	22	23	20	22	22	25	21
	COMP DATE 999	PRO	256	22	17	22	21	19	22	23	20	22	22	25	21
	WORK UNIT OTHER	EXP													

COMPUTED PRIORITY EQUATES TO: QTR 1 1 QTR 2 1 QTR 3 1 QTR 4 1

TYPE ENTRY SCN	PROJECT TITLE		TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
M [illegible]	AUTOMATED INTACS IMPLEMENTATION AND MA	RED	252	22	18	22	21	19	22	22	20	22	22	21	21
	COMP DATE 999	PRO	252	22	18	22	21	19	22	22	20	22	22	21	21
	WORK UNIT ADPSPT	EXP													

COMPUTED PRIORITY EQUATES TO: QTR 1 1 QTR 2 1 QTR 3 1 QTR 4 1

TYPE ENTRY SCN	PROJECT TITLE		TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
I [illegible]	SYSTEM ENGINEERING PLAN - AEAT	RED	322	59	58	59	58	72	74	69	63	69	60	53	58
	COMP DATE 999	PRO	322	59	53	59	58	72	74	59	63	59	60	58	58
	WORK UNIT OTHER	EXP													

COMPUTED PRIORITY EQUATES TO: QTR 1 1 QTR 2 1 QTR 3 1 QTR 4 1

			TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
	GROUP 2A - TOTALS	RED	1330	113	103	113	110	110	118	114	108	113	104	114	110
		PRO	1330	113	103	113	110	110	118	114	103	113	104	114	110
		EXP													

A. PRIORITY

GROUP 25 - AVER PRIORITY/MINIMALLY RESOURCED (1-768)

TYPE ENTRY RCN	PROJECT TITLE		TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
W 03359	NATO VIII TELECOMMUNICATIONS	REQ	24	2	2	2	2	2	2	2	2	2	2	2	2
	COMP DATE 999	PRJ													
	WORK UNIT INTSTD	EXP													
	COMPUTED PRIORITY EQUATES TO:					QTR 1 3			QTR 2 3			QTR 3 3		QTR 4 3	
I 27433	SCIENCE AND TECHNOLOGY OBJECTIVES GUID	REQ	24	2	2	2	2	2	2	2	2	2	2	2	2
	COMP DATE 999	PRJ													
	WORK UNIT OTHER	EXP													
	COMPUTED PRIORITY EQUATES TO:					QTR 1 3			QTR 2 3			QTR 3 3		QTR 4 3	
I 27055	DECENTRALIZED AUTOMATED SERVICE SUP-DR	REQ	24	2	2	2	2	2	2	2	2	2	2	2	2
	COMP DATE 999	PRJ													
	WORK UNIT ROC	EXP													
	COMPUTED PRIORITY EQUATES TO:					QTR 1 3			QTR 2 3			QTR 3 3		QTR 4 3	
W 55311	NATO STANDARDIZATION	REQ	28	3	2	2	2	3	2	2	3	2	2	2	3
	COMP DATE 999	PRJ													
	WORK UNIT ROC	EXP													
	COMPUTED PRIORITY EQUATES TO:					QTR 1 3			QTR 2 3			QTR 3 3		QTR 4 3	
W 55565	INTACS INTEGRATION II	REQ	1777	149	149	148	148	148	148	148	148	143	148	148	148
	COMP DATE 352	PRJ													
	WORK UNIT DEVS	EXP													
	COMPUTED PRIORITY EQUATES TO:					QTR 1 3			QTR 2 3			QTR 3 3		QTR 4 3	
W 57443	BATTLEFIELD AUTOMATION INTEROPERABILIT	REQ	633	57	57	56	57	57	57	57	57	57	57	57	57
	COMP DATE 999	PRJ													
	WORK UNIT OTHER	EXP													
	COMPUTED PRIORITY EQUATES TO:					QTR 1 3			QTR 2 3			QTR 3 3		QTR 4 3	
	GROUP 25 - TOTALS	REQ	2550	216	216	212	213	216	213	213	216	213	213	213	214
		PRJ													
		EXP													

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RCW - TIME REPORTING SYSTEM
PART II - PLANNING GUIDANCE

OPERATING PROGRAM FORE SYSTEMS INTEGRATION MGT BR
(COST CENTER 0423)

RUN DATE: 15 SEP 80

NCR - TIME REPORTING SYSTEM
PART II - PLANNING GUIDANCE

OPERATING PROGRAM FOR: SYSTEMS INTEGRATION NGT BR
(COST CENTER 042)

RUN DATE: 15 SEP 90
EFFECTIVE DATE: 11 SEP 90

1. PRIORITY

GROUP 3 - LOW PRIORITY/DEFERRED (OR)

TYPE ENTRY	ACN	PROJECT TITLE		TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
M	02909	QUADRIPARTITE WORKING GROUP ON COMBAT	REQ	24	2	2	2	2	2	2	2	2	2	2	2	2
		COMP DATE 999	PRJ													
		WORK UNIT INTSTD	EXP													
		COMPUTED PRIORITY EQUATES TO:			QTR 1 3			QTR 2 3			QTR 3 3			QTR 4 3		
M	23662	TRI-TAC UNIT LEVEL CIRCUIT SWITCH	REQ	474	46	30	37	40	35	48	55	43	47	26	42	25
		COMP DATE 999	PRJ													
		WORK UNIT JSGP	EXP	*												
		COMPUTED PRIORITY EQUATES TO:			QTR 1 3			QTR 2 3			QTR 3 3			QTR 4 3		
M	67467	AUTOMATED INTACS IMPLEMENTATION AND MA	REQ	1925	152	153	152	152	152	152	152	152	152	152	152	152
		COMP DATE 999	PRJ													
		WORK UNIT ADPSPY	EXP													
		COMPUTED PRIORITY EQUATES TO:			QTR 1 3			QTR 2 3			QTR 3 3			QTR 4 3		
		GROUP 3 - TOTALS	REQ	2323	200	185	191	194	189	202	209	197	201	180	196	179
			PRJ													
			EXP													

REPORT: ETDS - 055 CACMIS/FRAMIS - STG (122)

TRS - TIME REPORTING SYSTEM
PART II - PLANNING GUIDANCE

OPERATING PROGRAM FOR: SYSTEMS INTEGRATION MGT BR
(COST CENTER 042)

RUN DATE: 15 SEP 90
EFFECTIVE DATE: 11 SEP 90

B. STATUS OF SUPPORT PLANNING

GROUP 9 - SUPPORT/NON-PRODUCTIVE

TYPE ENTRY	RCN	PROJECT TITLE		TOTAL	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27425	SICK LEAVE-PROFESSIONAL PERSONNEL	REQ	50	5	5	5	5	5	5	5	5	5	5	5	5
		COMP DATE 999	PRJ	50	5	5	5	5	5	5	5	5	5	5	5	5
		WORK UNIT NPROD	EXP													
1	27425	LEAVE-PROFESSIONAL	REQ	225	5	9	31	40	9	10	15	25	21	30	15	14
		COMP DATE 999	PRJ	225	5	9	31	40	9	10	15	26	21	30	15	14
		WORK UNIT NPROD	EXP													
1	27470	SICK LEAVE - CLERICAL PERSONNEL	REQ	24	2	2	2	2	2	2	2	2	2	2	2	2
		COMP DATE 999	PRJ	24	2	2	2	2	2	2	2	2	2	2	2	2
		WORK UNIT NPROD	EXP													
1	27471	LEAVE - CLERICAL	REQ	44	2	2	5	5	2	2	2	5	5	5	2	7
		COMP DATE 999	PRJ	44	2	2	5	5	2	2	2	5	5	5	2	7
		WORK UNIT NPROD	EXP													
1	37000	VOLT/COMP TIME FOR POSITIONS EXEMPTED	REQ	24	2	2	2	2	2	2	2	2	2	2	2	2
		COMP DATE 999	PRJ	24	2	2	2	2	2	2	2	2	2	2	2	2
		WORK UNIT NPROD	EXP													
		GROUP 9 - TOTALS	REQ	377	15	20	45	54	20	21	26	40	35	44	26	30
			PRJ	377	16	20	45	54	20	21	25	40	35	44	25	30
			EXP													

4.1.2 Personnel Requirements

The personnel requirements on the MSD TDA are shown on Table 4-II. The personnel requirements for the SIMO required TDA which includes the command element are shown with assignments on Table 4-III.

Selection of types of professional personnel was based on the need for communications systems architecture and transition planning experience. A balanced mix of military and civilian personnel was necessary in order to provide a balance of field experience by military personnel and technical experience by civilian personnel. Thus, the Systems Integration and Management organization will be able to keep current on field/combat conditions as well as providing equipment/systems expertise.

In view of the complexity of the functions when compared to other Divisions of the Directorate of Combat Developments, the command element consists of a Lieutenant Colonel as Office Chief and a GS-14 as Supervisor Communications Specialist. Since the functions of SIMO are systems and new equipment oriented, the Office Chief should possess a Systems Engineer (27A) primary speciality. The Supervisor Communications Specialist (393), GS-14 provides long-term continuity and far-ranging technical expertise. The grade structure in both cases do not create a precedence, since three divisions of the current Directorate of Combat Developments possess the same authorized grades. Following are the job profiles for the personnel.

SYSTEM INTEGRATION AND MANAGEMENT OFFICE

Req	Auth	Asgd	Para	Line	Title	Grade	MOS	Req	Auth	Name	Asgd to
1	1	(018D-02)		01	Chief	04	27A53	1	1	Vacant	Sys Integ
1	1	(018D-03)		02	Sr Project Officer	04	27B49	1	1	Vacant	Sys Integ
1	1	(018D-08)		03	Sr Project Officer	04	51A27	1	1	CPT Keenan	Sys Integ
2	1	(018D-15)		04	Project Officer	03	53A25	2	1	LT Biondi	Sys Integ
											Sys Integ
1	1	(018D-16)		05	Project Officer	03	53A54	1	1	Vacant	Sys Integ
1	0	(018D-12)		06	Project Officer	03	27B25	1	0		Sys Integ
2	0	(018D-19)		07	Telecom Tech	WO	290A0	2	0		Sys Integ
											Sys Integ
1	1	(018D-27)	*	08	Project NCO	E7	72G40	1	1	SFC Orrell	Sys Integ
3	1	(018D-29)		08	Comm Spec	13	00393	3	1	Mr. Pound	Sys Integ
											Sys Integ
											Sys Integ
1	0	(018D-30)	*	10	Elec Engr	13	00855	1	0		Sys Integ
2	2	(018D-32)	*	11	Elec Engr	12	00855	2	2	Vacant	Sys Integ
										Vacant	Sys Integ
5	3	(018D-31)		12	Comm Spec	12	00393	5	3	Vacant	Sys Integ
										Vacant	Sys Integ
										Vacant	Sys Integ
											Sys Integ
4	0	(018D-32)		13	Comm Spec	11	00393	4	0		Sys Integ
											Sys Integ
											Sys Integ
											Sys Integ
2	0	(018D-34)	*	14	Elec Engr	11	00855	2	0		Sys Integ
											Sys Integ
1	0	(018D-36)	*	15	Clerk Steno	04	00312	1	0		Sys Integ
2	2	(018D-37)		16	Clerk Typist	04	00322	2	2	Mrs. Meeler	Sys Integ

SYSTEM INTEGRATION MANAGEMENT OFFICE
(SIMO)

TDA 01-81

REQ = 33
AUTH = 14
NEED = 18

Req	Auth	Asgd	Para	Line	Title	Grade	MOS	Req	Auth	Name	Asgd to
1	0			01	Chief	05	27A51	1	0		SIMO
1	1			02	Sr Project Officer	04	27A53	1	1	Vacant	BAISEMP
1	1			03	Sr Project Officer	04	27B49	1	1	Vacant	BAISEMP
1	1			04	Sr Project Officer	04	51A27	1	1	CPT Keenan	AIIMS/ADP
2	1			05	Project Officer	03	53A25	2	1	LT Biondi	Trans Tm
						03	53A25				AIIMS
1	1			06	Project Officer	03	53A54	1	1	Vacant	BAISEMP
1	0			07	Project Officer	03	27A51	1	0		SI & Eval Tm
1	0			08	Telecom Tech	WO	290A0	1	0		SI & Eval Tm
1	0/1			09	Project NCO	E8	31Z50	1	0/1	SFC Orrell - 72G40	SI & Eval Tm
1	0		*	10	Supv Comm Spec	14	393	1	0(1)		SIMO
3	1			11	Comm Spec	13	393	3	1	Mr. Pound	SI & Eval Tm
						13	393				Trans Tm
						13	393				AIIMS/ADP
7	5			12	Comm Spec	12	393	9	5(2)	Vacant	BAISEMP
						12	393			Vacant	BAISEMP
						12	393			Vacant	BAISEMP
						12	393			Vacant	Trans Tm
						12	393			Vacant	SI & Eval Tm
						12	393				Trans Tm
						12	393				Trans Tm
						12	393				SI & Eval Tm
						12	393				SI & Eval Tm
6	0			13	Comm Spec	11	393	6	0		Trans Tm
						11	393				Trans Tm
						11	393				Trans Tm
						11	393				SI & Eval Tm
						11	393				SI & Eval Tm
						11	393				SI & Eval Tm
1	0		*	14	Secretary	05	318	1	0(1)		SIMO
3	2			15	Clerk-Typist	04	322	3	2	Mrs. Meeler	SI & Eval Tm
						04	322			Vacant	Trans Tm
						04	322				AIIMS/ADP

Contractual Support

Manpower and performance data does not reflect the seven (7) manyears of professional contractual effort required during 1981 in support of the following SIMO tasks/projects.

A. Automated INTACS implementation management system.

B. INTACS transition and management plan - Automated System Integration Processes.

Contractual support is necessary because qualified SIMO personnel required to accomplish these tasks are fully committed to equal or higher priority projects. The requirement for this support was approved and funded by HQ TRADOC. The support will continue at the present level thru 1981 and 1982.

1 - Chief (Officer)

Supervises the operation of the office and provides senior military expertise for system integration, management and implementation for the INTACS research, development, acquisition and operational deployment. Supervises the performance of the system integration and interoperability responsibilities for combat development and Life cycle management of INTACS and tactical CE equipment. Provides guidance to assigned personnel in the initiation, development and coordination of system integration management applications for materiel requirements documentation for ARMY INTACS CE equipment and systems. Participates in briefing, conferences and boards at the DOD, JCS and international levels and others as the representative of the Signal Center and TRADOC on System Integration Management Planning, control and Implementation. Approves outgoing office correspondence and insures coordination with DCD divisions, TSM's, and other directorals.

Keeps informed of tasks being performed within the office and advises the Director of Combat Developments and Staff on all aspects of System Integration Management of INTACS related CE materiel combat developments.

7 - Project Officers (Officer)

Provides military expertise and current field experience to address System Integration, INTACS, and other tactical communications problems and to develop requirements for System Integration, Interoperability, operational deployment applications, and acquistion schedules for new communication equipments and systems used in INTACS. Develops and documents new operational deployment, System Integration and Interoperability applications to improve INTACS tactical communications support and operations. Those in the grade of Major act as team leaders and senior project officers. Those in the grade of Captain and Lieutenant are

project officers.

Prepares System Integration and Interoperability materiel, System management information documentation and INTACS system architecture documentation.

Develops and coordinates the Signal Center position on Transition plans, acquistion schedules, Impact evaluation and related System Integration requirements for assigned projects. All may be assigned as contracting officers representative to direct those projects being accomplished by contract. All may be charged to provide input to the Life Cycle materiel developer and test agency for information relating to their assigned projects. All act as the Signal Center principal point of contact for assigned projects. All must attend meetings, briefings and respond to proposals relating to assigned projects from other elements of the Signal Center and sister agencies. All must prepare and give briefings related to assigned projects.

1 - Telecommunications Technician (WO)

Prepares system integration and interoperability material, system management information documentation and INTACS system architecture documentation. Develops and coordinates the Signal Center position on transition plans, acquisition schedules, impact evaluation, communications security and related system integration requirements for assigned projects. Principal point of contact within the office for communication security of INTACS systems and equipments. Develop and coordinates the Signal Center position for all assigned projects. Reviews, comments and provides recommendations to the origination of combat developments documents which are prepared by other elements of the Signal Center and headquarters which are external to the Signal Center. Prepares and presents briefings related to assigned projects.

1 - Project NCO (Enlisted)

Performs the combat developments function for integration, interoperability and acquistion on assigned INTACS systems and equipments. Performs as the Signal Center point of contact for assigned projects. Prepares system integration and interoperability materiel, system management information documentation and INTACS system architecture documentation. Develops and coordinates the Signal Center position on transition plans, acquistion schedules, impact evaluations and related system integration requirements for assigned projects. Provides input to the materiel developer and test agency for information relating to assigned projects. Reviews, comments, and makes recommendations on documents developed by others. Prepares and presents briefings as required.

Schedule X (S_____,L_____) - Continuation Sheet Section B - Specific Remarks Continued

1 - Supv Comm Spec (CIV)

Exercises staff responsibility and authority for deciding and/or recommending:
what programs or major projects should be initiated, dropped or curtailed.
How many resources to commit to individual projects.
Milestone schedule and timing for initiating, dropping, curtailing or completing major projects.
Periodic and comprehensive evaluation of programs, goal, documentation, and requirements for contractual support.
Recommendation for changes in organizational structure.
Selections for non-supervisory and supervisory positions.

Is rater for Civilian Team Chiefs and endorser for appraisals of professional Civilian employees. Advises the chief on activities relating to assigned projects and co-supervises the performance of the system integration management responsibilities for combat development and Life Cycle management of INTACS systems and equipments, as required. Provides co-guidance to assigned personnel on system integration management activities, as required. Keeps informed of tasks being performed within the office and acts as co-adviser to the Director of Combat Developments and staff on all aspects of system integration management of INTACS related CE material combat developments. Acts as chief when the chief is not present.

16 - Communication Specialist (CIV)

Provides the tactical communications expertise and knowledge required to address system integration, interoperability, INTACS, and other tactical communication problems necessary to accomplish the combat development functions assigned to the office.

Develops and documents new operational deployments, system integration and interoperability applications and acquistion schedules for new communications systems/equipment to improve INTACS tactical communication support operation. Performs as the Signal Center principal point of contact for assigned projects.

Develops and coordinates the Signal Center position on Transition plans, acquistion schedules, impact evaluations and related system integration requirements for assigned projects. All may be assigned as contracting officer representatives to direct those projects being accomplished by contract. All may be charged to provide input to the Life Cycle materiel developer and test agency for information relating to their assigned projects. All must attend meetings/briefings and respond to proposals relating

to assigned projects. All must prepare and give briefings related to assigned projects. Those in the grade of GS-13 act as team leaders and senior project officers. Those in lower grades as individual project officers or team members.

1 - Secretary (CIV)

Provides secretarial services to the chief. Receives, reviews and routes incoming correspondence. Composes replies to correspondence for chief's signature. Reviews outgoing office correspondence for compliance with policies and regulations. Establishes and maintains office level files. Oversees the clerical operation of the division by planning, and assigning clerical work and providing clerical assistance to insure maximum efficiency in accomplishing the officers' clerical work load. Must be familiar with and have a good inside knowledge of the present as well as the past activities of the office.

2 - Clerk Typist (CIV)

Provides clerical assistance to the teams of the office. Types correspondence, maintains files and acts as telephone clerks of teams assigned. The total clerk typist requirements of the office are based on a ratio of one clerk for eight project officers/NCOs including supervisory personnel.

RECAP OF STAFFING REQUIRED

- Div Chief
- Proj Off
- PE Project Officer
- Telecommunications Technician (WO)
- Project NCO
- Secty Comm Specialist (Civ)
- Comm Specialist (Civ)
- Electronic Engr (Civ)
- Secretary (Civ)
- Clerk Steno (Civ)
- Clerk Typist (Civ)

4.2 ADP Requirements

Development of AIIMS has been underway for some time, and the associated ADP requirements have been established. This Management Plan requires reexamination and expansion to include automated System Evaluation and System Management Information programs. In addition, the periodic automated report sets which support System Integration and Management functions and tasks are estimated. It is assumed that these same report sets are provided either directly or indirectly via briefings to supported organizations. A report set was defined in preceding Section 2.5.4 on Procedures, Table 2-V, for each organizational element matched to functions/tasks and to supported organizations. Appendix E of the Contractor Study provides the details of the report estimates.

Also included are revised estimates of storage, terminals, development/maintenance and space for ADP personnel which together sum up all the ADI requirements for the Automated Management System as shown in Table 4-IV.

TABLE 4-IV ADP TOTAL REQUIREMENTS BY ORGANIZATION PER YEAR

	HEADQUARTERS	ARCHITECTURE	PLANNING	IMPLEMENTATION	TOTAL
REPORT SETS:					
PLANS AND STATUS	4/182				
ARCHITECTURE - SYSTEM		2/14			
- EVALUATION		2/34			
TRANSITION PLANNING			1/15		
TRANSITION IMPLEMENTATION - INPUTS				1/12	
- AUTOMATIC DISTRIBUTION				4/92	
RUN TIME					
PRINTING TIME					
REPRODUCTION TIME					
STORAGE:					
CORE MEMORY				150K CMW	
DISK				960K CH	
TERMINALS:					
INTERACTIVE UNSECURE (MORAN HALL FOR CSC CONTRACTOR)				1	
INTERACTIVE SECURE (MORAN HALL FOR CSC CONTRACTOR)				4	
BATCH--CARD READER, LINE PRINTER (650 LPM) (MORAN HALL)				1	
-CARD PUNCH				(SHARED)	
INTERACTIVE SECURE (SIMO AREA)				1	
DEVELOPMENT/MAINTENANCE:					
FREQUENCY OF RUNS					
RUN TIME					
INTERACTIVE TIME					

SPACE AREA IN MORAN HALL TO HOUSE 4 CSC CONTRACTOR PERSONNEL PLUS 2 SIMO PERSONNEL 6

NOTES: 1. NO.1/NO.2 - Number Report Sets/Number total Copies 2. CMW - Core Memory Word, 10 6-Bit Characters (CH)

4.3 Space Allocation

Office space is required for SIMO Personnel (18), MMC Personnel (4), CSC Personnel (5), plus ADP Terminals shown in paragraph 4.2 and office furniture/machines/etc.

5.0 MASTER WORK PLANS (FY-81)

The following work plans schedule the major and supporting tasks required to accomplish the functions and mission of the System Integration Management Office in FY-1981. Major milestones for the office are shown on the first master work plan. Thereafter, each team's tasks required to support the major milestones are scheduled on separate work plans.

As shown on the Major Milestones Master Work Plan, SIMO plans to have a draft Management Plan in the beginning of FY-81 to be approved and finalized in 60 days. This plan was developed with contractor support and will be periodically updated on a yearly basis. SIMO must have the personnel, facilities, ADP and contractual support resources described in the Management Plan in the beginning in order to accomplish the milestones shown.

In the first quarter, operation will be primarily manual with Equipment Description Sheets-FY-81 (EDS-81), Life Cycle Management Summaries (LCM-81), and Critical Event Summaries (CES-81) published with manually-generated information. However, during the first quarter, validated inputs which are integrated and electronically-distributed by ACSAC-SI quarterly are expected. This will be followed by the first AIIMS run which automatically predicts equipment requirements through FY-1983 (Q-83). Force-equipment models will be distributed to users at this time, and a working user manual on AIIMS will be available. This is a significant milestone since it marks the first prediction of equipment requirements as derived by the automated program, AIIMS.

By the end of the second quarter, operation will be fully-automated. New INTACS-80 system architecture will be evaluated and then incorporated in the updated INTACS Architecture document. Intial runs of ASDP

and ASMI will support the architecture update, to be repetitive yearly. The first Automated Transition Plan, repetitive each year, will be assembled. This will incorporate AIIMS-generated Fielding Schedules through FY-1983 (FS-83) based on training and logistics inputs along with equipment requirements predicted through FY-1991 (FY-91).

The user manual on AIIMS will be distributed.

After the second quarter, extended automated system integration processes developments are planned. These automated processes will support the management functions of control, architecture update, evaluation, and system information. The complete set of Automated System Management Information (ASMI) outputs and the user manual are planned by the end of FY-81. The Automated System Evaluation Program (ASEP) processes to include the comparison graph programs will be completed and the user manual will be developed for planned runs prior to the FY-1982 Architecture Update.

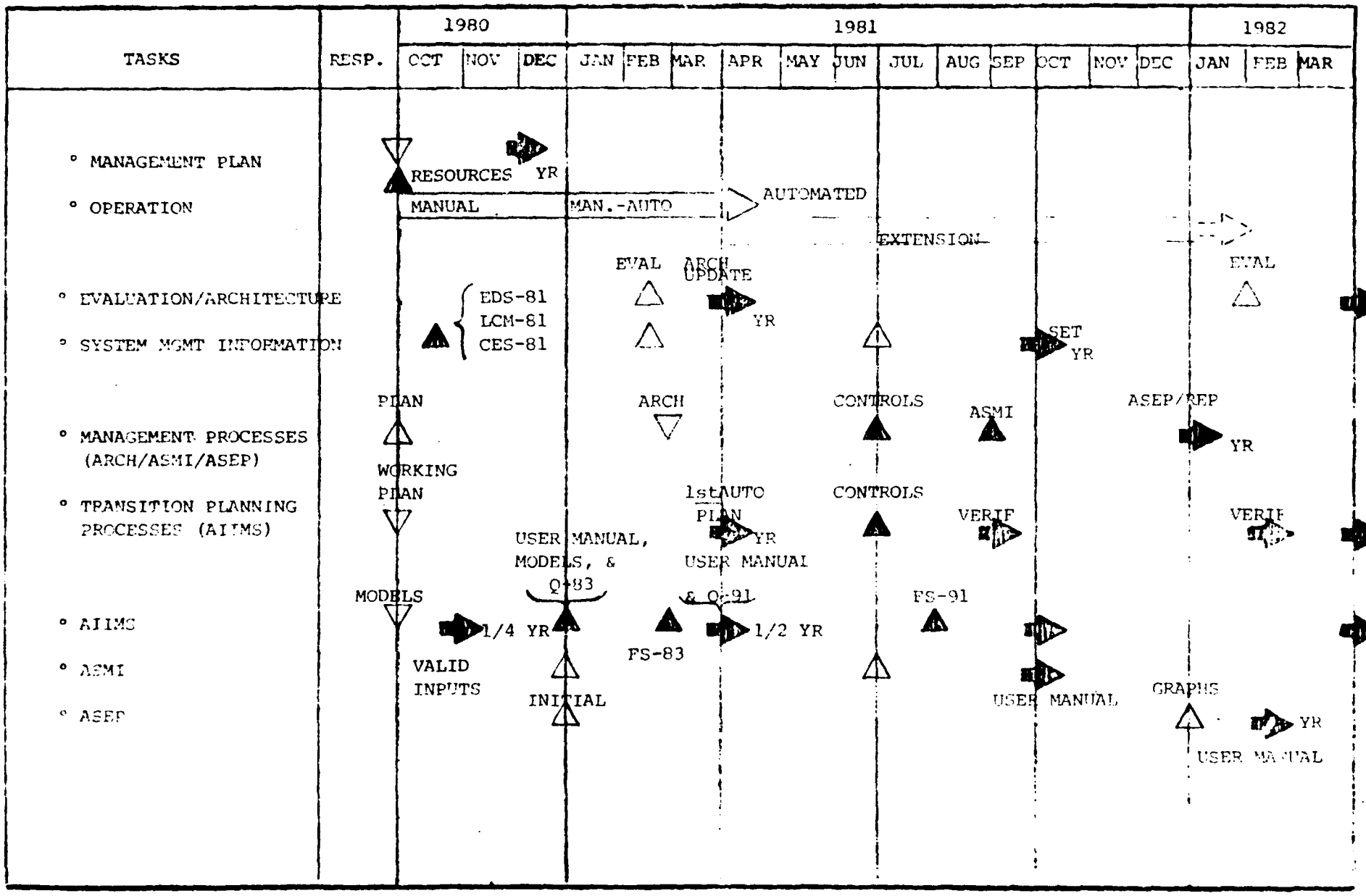
All of these major milestones will be accomplished provided that the resource requirements of the Management Plan are met and that the teams meet their individual schedules shown on enclosed separate work plans.

9-8-80

SYSTEM INTEGRATION AND MANAGEMENT OFFICE (SIMO)

MASTER WORK PLAN-MAJOR MILESTONES

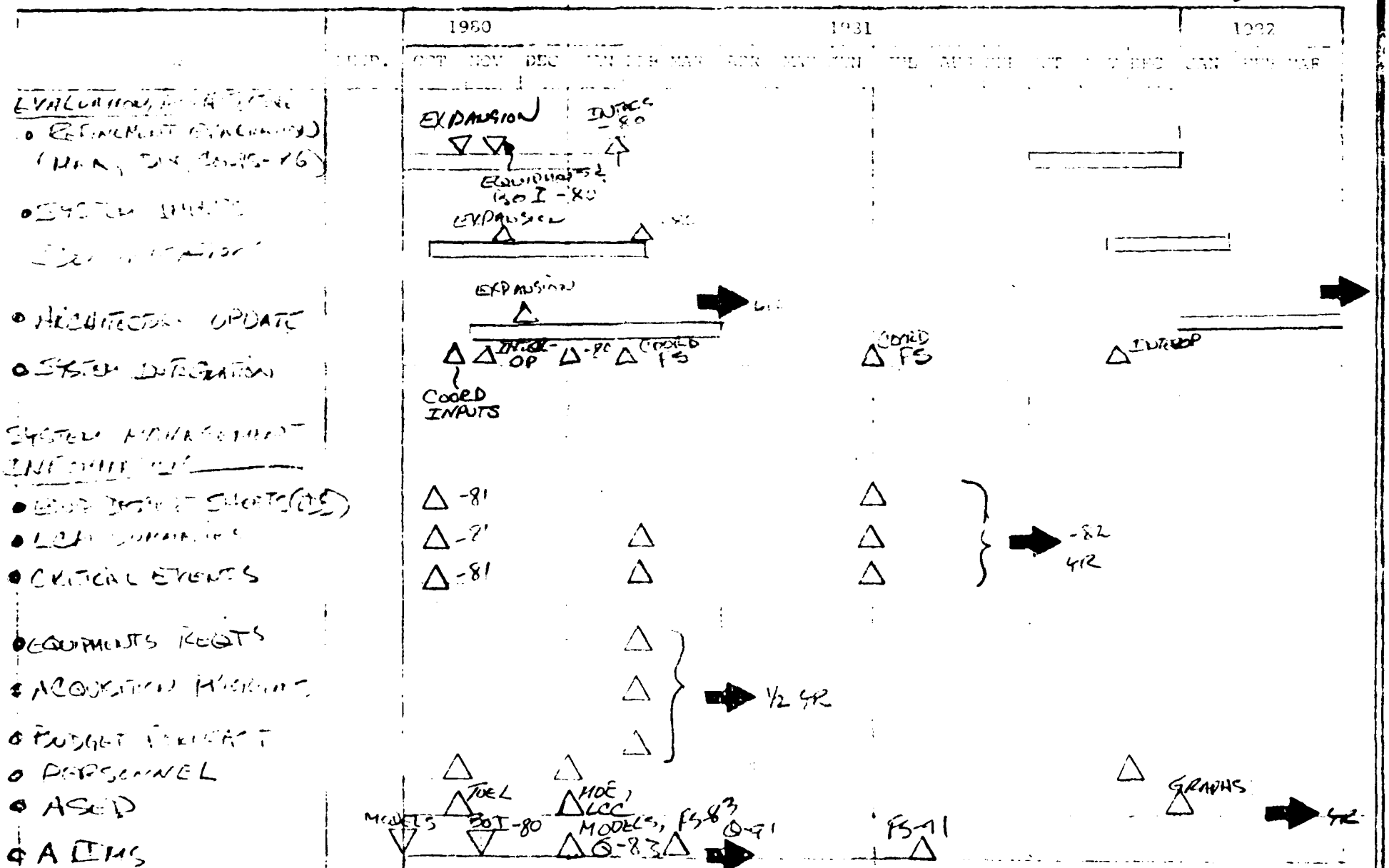
▼-DRAFT ▲-FINAL ➡-PERIODIC



EXAMPLE

SYSTEM INTEGRATION AND MANAGEMENT - INTEGRATION AND IMPACT EVALUATION PAGE 1 OF 1

TEAM 2 MASTER WORK PLAN ▽-DRAFT △-FINAL



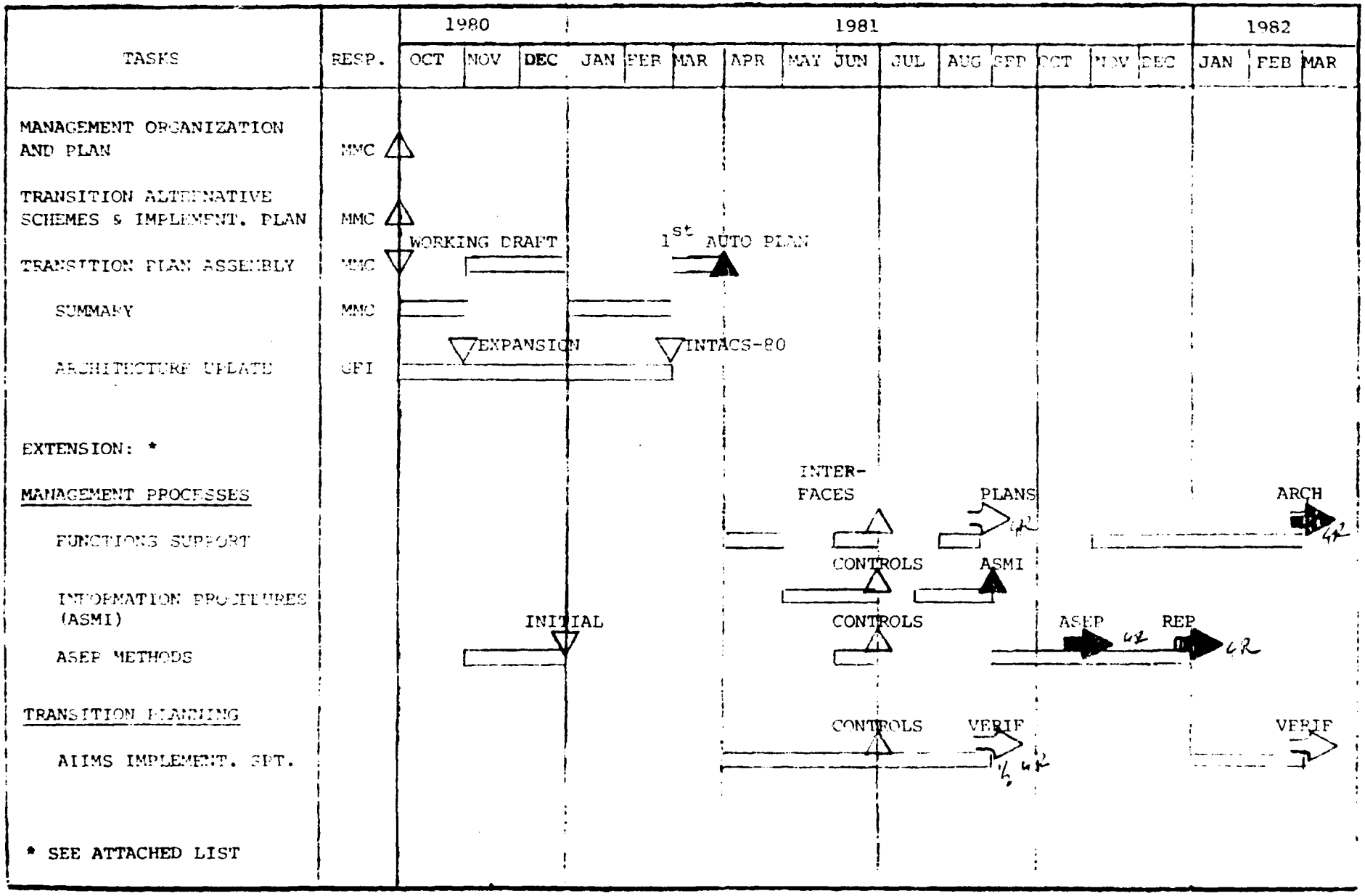
SYSTEM INTEGRATION AND MANAGEMENT - PLANS AND PROCESSES DEVELOPMENT

 9-2-80

TEAM 2

MASTER WORK PLAN

▼-DRAFT ▲-FINAL ➡-PERIODIC



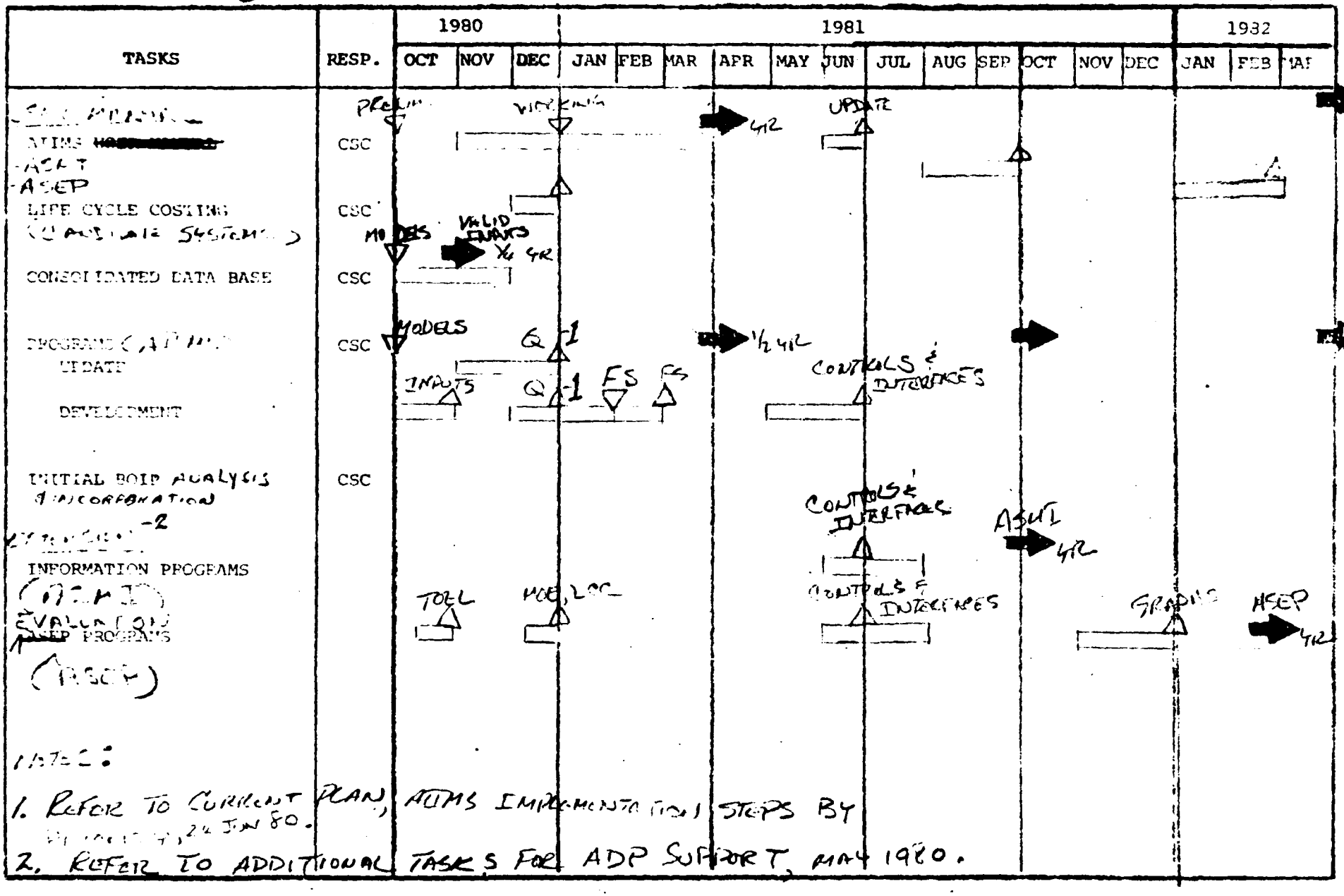
SYSTEM INTEGRATION AND MANAGEMENT – ADP SUPPORT

PAGE 1 OF 1

TEAM 3

MASTER WORK PLAN

▽-DRAFT △-FINAL ➡ PERIODIC



NOTES:

1. REFER TO CURRENT PLAN, NTIMS IMPLEMENTATION STEPS BY 24 JAN 80.
2. REFER TO ADDITIONAL TASKS FOR ADP SUPPORT, MAY 1980.

AUTOMATED SYSTEM INTEGRATION PROCESSES - EXTENSION

MANAGEMENT FUNCTIONS SUPPORT

NEW ARCHITECTURE INTEGRATION

PLANS, SCHEDULES, CONTROLS PROCEDURES

INTERFACE PROCEDURES

AIIMS IMPLEMENTATION SUPPORT

VERIFICATION PROCESS

DATA INPUT COORDINATION

VERTICAL/HORIZONTAL INTEGRATION

CONTROLS

ASMI PROCEDURES

REPORTS CONTROL

LOGGING

DISTRIBUTION

OTHER THAN AIIMS AND ASEP

ASEP METHODS

BASE SYSTEMS DATA (F-MODELS)

COST GRAPH

INTEGRATION 5 PROGRAMS

INTERFACE WITH NEW SIMULATION

REP

INTERFACE ASMI

6.0 AUTOMATED IMPLEMENTATION CONCEPT

6.1 Purpose

To effectively manage the many aspects of systems integration and implementation, it is necessary to automate as many of the procedures as possible. Accordingly, a computer system consisting of data base files, current input information, and operating programs has been established to optimize the resources available and to provide timely reports and schedules for management. This process is called the Automated INTACS Implementation Management System (AIIMS).

6.2 Requirements

One of the primary requirements of the Systems Integration Management Office (SIMO) is to produce schedules and structured reference data to assist managers at all levels in performing the LIFE CYCLE MANAGEMENT functions for the Transitional and Objective INTACS SYSTEM. AIIMS is the major tool to be used by SIMO in meeting this requirement. The AIIMS resident data bases, together with selected input data from outside sources, are acted upon by operating programs to produce information in forms that are usable by management.

6.3 Automated Transition Techniques

To portray each unit's status during transition, a series of five (5) models have been constructed, ranging from the Current Authorized Status, through the Transition Phases, to the Objective System. These models represent all the stages a unit could go through from their current status although all units will not go through every stage because of their mission and equipment authorization.

The units from the Program ~~Operating~~ OBJECTIVE Memorandum (POM) for each model year are obtained and the equipment authorizations from the TOEs and BOIPs are applied to the units. By relating specific equipment to specific units, the Force/Equipment Models for transition are created. These models are:

- F-1 ATACS-POM 80
- F-2 Improved ATACS-POM 82
- F-3 Improved ATACS with CNGE and ITC-39-POM 84
- F-4 Base Digital with Hybrid Application-POM 85/86
- F-5 Objective System/Objective Force

6.4 Equipment Acquistion Prediction Process

With the above information as a base, AIIMS can be used to prepare a recommended equipment buy list for each successive year. To the base are added the constraints of actual and/or predicted budget, equipment costs, production rates, AAO and any other input that affects the procurement strategy. The AIIMS operating programs consider the unit equipment requirements by priority in conjunction with the constraints and produces a recommended equipment purchase list by year. Changes in any of the input factors produces corresponding changes in the list when the programs are rerun. This can provide management with a rapid evaluation of the effect of various critical input factors, using the Automated System evaluation process.

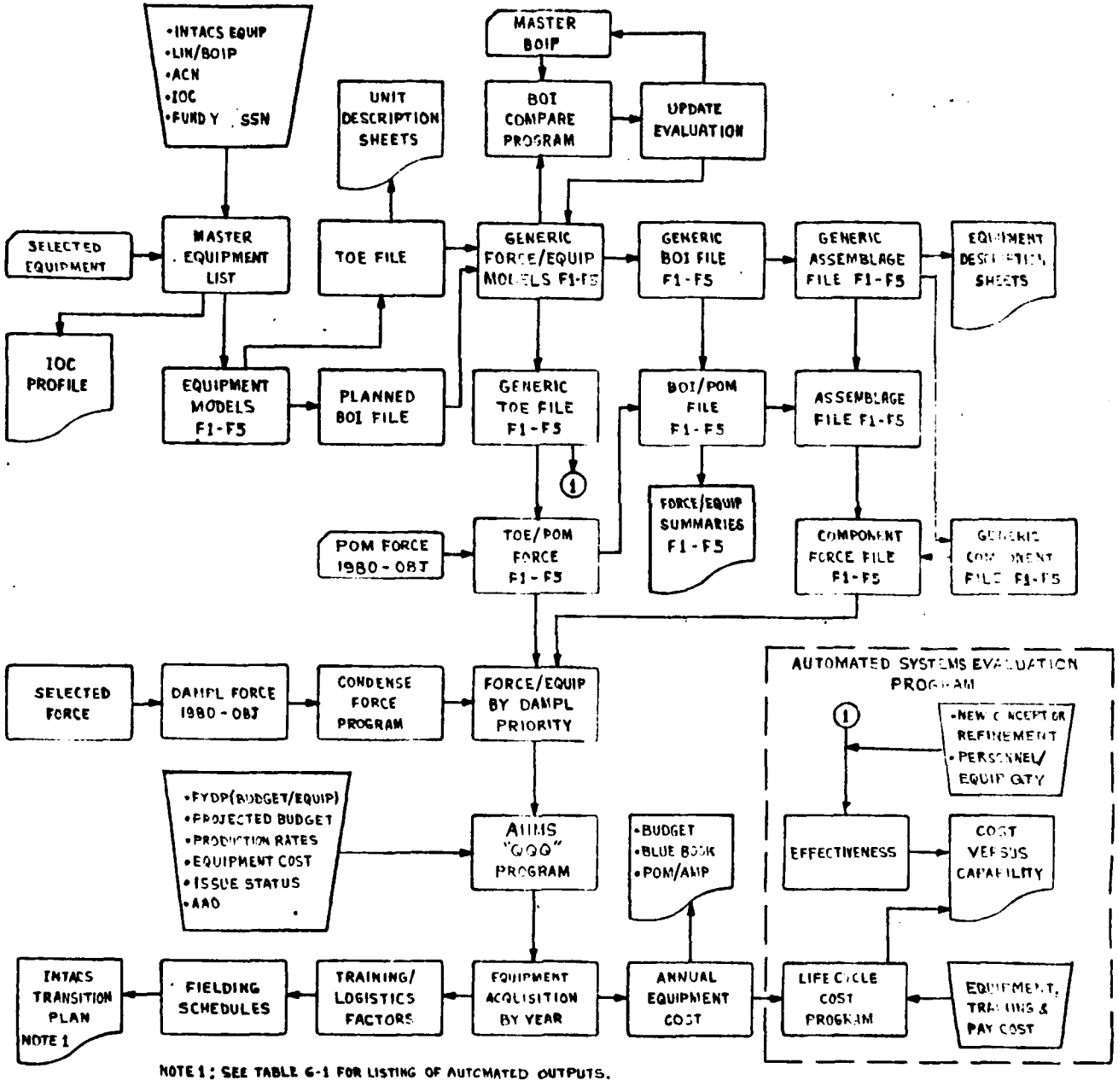
6.5 Fielding Schedules

Once equipment acquisition has been determined it is necessary to consider training for operating and maintenance personnel. The Fielding Plan compares equipment production schedules, training course dates and shipping time for both materiel and personnel to determine if both will arrive in a unit within a prescribed time. This is to ensure that maximum utilization is made of the training given and that the equipment is available for interoperable systems. The forecast of equipment acquisition by AIIMS permits advanced planning and coordination by the combat developer, materiel developer, trainer and logistician in order to accomplish this.

6.6 AIIMS User Relationships

In addition to the AIIMS resident data bases and inputs from the Signal Center, there are a large amount of inputs that must be obtained from outside agencies on a periodic basis. When these inputs and files are manipulated to produce equipment lists and schedules, the outputs require coordination with these same agencies to incorporate refinements prior to making the final outputs. The final outputs are distributed to all the agencies involved with the transition process through the Automated System Management Information process.

SIMO AUTOMATED TRANSITION AND EVALUATION PROCEDURES



NOTE 1: SEE TABLE 6-1 FOR LISTING OF AUTOMATED OUTPUTS.

9 OCT 80

FIGURE 6-1

INCL 1

DRAFT

ARMY REGULATION
No. 15-23

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC 1980

BOARDS, COMMISSIONS, AND COMMITTEES
INTEGRATED TACTICAL COMMUNICATIONS SYSTEM (INTACS)
STEERING COMMITTEE AND SYSTEMS INTEGRATION MANAGEMENT

Effective

Local supplementation of this regulation is permitted but not required

1. Purpose. This regulation establishes the integrated Tactical Communications System (INTACS) Steering Committee as a continuing committee to guide the INTACS Implementation and Systems Integration Management.

2. Background. The INTACS Study identified an objective tactical communications system which will best meet the needs of the Army in the timeframe 1976-1997. With the approval of the study implementation, the INTACS Study Advisory Group (SAG) now transitions into a Steering Committee to guide the INTACS Implementation and Systems Integration Management.

INTACS is not a hardware system. INTACS is the Army's first comprehensive, flexible, cost-effective master plan that merges into into a multi-billion dollar system the organizational structure, doctrine and more than 50 major end items of equipment. This inventory and developmental hardware comes from several major sources. Some examples are: the Joint Tactical Communications Office (TRI-TAC); Satellite Communications Agency (SATCOMA); Project Manager, Multiservice Communications System (PM, MSCS); Army Tactical Communications System (ATACS); Project Manager, Single Channel Ground and Airborne Radio Radio Systems (SINCGARS); and the National Security Agency (NSA). The complexities involved in ensuring that hardware and personnel

INCL 1

are fielded in the proper mix and at the proper time precluded INTACS Implementation and Integration by exclusive use of the staff action process.

3. Mission. a. The INTACS Steering Committee and Systems Integration Management will oversee the implementation and integration progress of INTACS and provide guidance to the appropriate agencies in response to future changes in funding levels, doctrine requirements, and equipment development programs. Overall guidance will be provided to the agencies listed below, and to others as required, to insure that timely inputs are received by the Automated INTACS Implementation and Management System (AIIMS).

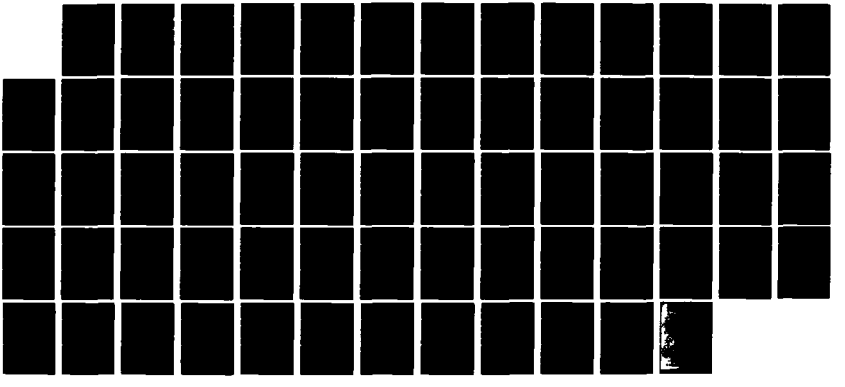
b. The U.S. Army Signal Center will provide the Transition Plan for continuing operation of INTACS implementation and integration utilizing the AIIMS data bases and operational programs. The flow process for the information inputs and outputs to accomplish this operation is shown in Figure 1.

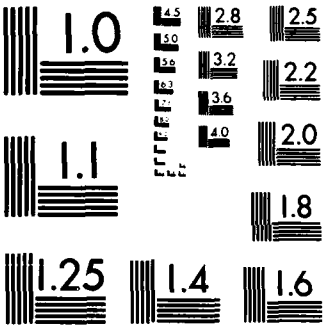
4. AIIMS. The INTACS Study established the requirement for AIIMS as a means to manage the myriad actions required during the transition to the objective system. AIIMS is a system of automated data bases and coordination requirements of all agencies concerned with INTACS and provides meaningful output summaries and schedules to guide further actions. To keep all data current, periodic inputs are required from the agencies shown:

• Budget (Current and projected)	DA Staff
• Program Objective Memorandum (POM)	DA Staff
• DA Master Priority Listing (DAMPL)	DA Staff
• Equipment Costs	DA Staff
• Army Acquisition Objectives (AAO)	DA Staff
• RDAC Sheets	DA Staff
• Initial Operational Capability	DARCOM
• Equipment Production Rates	DARCOM

AD-A127 619 INTEGRATED TACTICAL COMMUNICATIONS SYSTEM (INTACS) MANAGEMENT PLAN METHOD..(U) MARTIN MARIETTA DENVER AEROSPACE CO MAY 80 DAAK21-79-C-0161 2/2

UNCLASSIFIED F/G 5/2 NL





• TOE and BOIP	TRADOC
• Force Model Equipment Lists	SIG CEN
• Current Issue Status	DESCOM
• Issues, Turn-Ins, Redistribution	DESCOM
• Annual Procurement Lists	DA and SIG CEN
• Training Requirements Per Equipment	SIG CEN (QQPRI)
• MOS Course Dates by Student Quantity	SIG CEN
• Attrition Factors by MOS	SIG CEN
• MOS and Personnel Quantity Per Equipment	SIG CEN (QQPRI)
• MOS Course Lengths	SIG CEN
• Personnel Shipping Time To Unit	DA Staff
• Logistics Lead Time For Equipment	DA Staff
• Production Schedules	DARCOM

In turn, AIIMS will provide output to the appropriate agencies concerning equipment and force summaries, current force status, equipment procurement lists by priority, predicted year by year procurement for the objective system, fielding schedules, and other schedules and extracts as required.

5. Composition. a. The INTACS Steering Committee will consist of representatives in the grade of 06, civilian equivalent, or higher, from the following:

(1) Office of the Assistant Chief of Staff for Automation and Communication. Provides the chairman for the INTACS Steering Committee.

(2) Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS).

(3) Office of the Deputy Under Secretary of the Army (Operations Research) (ODUSA-OR).

(4) Office of the Deputy Chief of Staff for Personnel (ODCSPER).

(5) Office of the Deputy Chief of Staff for Logistics (ODCSLOG).

(6) Office of the Deputy Chief of Staff for Research, Development and Acquisition (ODCSRDA).

(7) Office of the Comptroller of the Army (OCA).

(8) Office Chief of Staff, United States Army (Management Information, Systems Directorate) (OCSA (MISD)).

(9) Office of the Assistant Chief of Staff for Intelligence (OACSI).

(10) US Army Material Development and Readiness Command (DARCOM).

(11) US Army Intelligence and Security Command (INSCOM).

(12) US Army Communications Command (USACC).

(13) US Army Forces Command (FORSCOM).

(14) US Army Training and Doctrine Command (TRADOC).

b. A non-voting recorder, who will prepare agenda items for each meeting and publish and distribute minutes of committee meetings, will be provided by the Office of the Assistant Chief of Staff for Automation and Communications (ACSAC).

c. The chairman may invite representatives from other DOD agencies to participate as non-voting observers.

5. Direction and Control. a. The committee will meet at the call of the chairman, Assistant Chief of Staff for Automation and Communications (ACSAC).

b. The chairman will solicit from the members, items for the agenda of each meeting.

c. The chairman may convene working sessions of the committee, as required.

d. Agencies/Commands cited in paragraph 4a will designate a primary and alternate member to the committee and provide their names and telephone numbers to ACSAC, ATTN: DAAC-SI within ten working days after a receipt of this regulation.

6. Administrative Support. a. All administrative support (space, clerical, and equipment) will be provided by the agency/command hosting the meeting.

b. Funds for travel, per diem, and overtime, if required, will be provided by the parent organization of the committee representative.

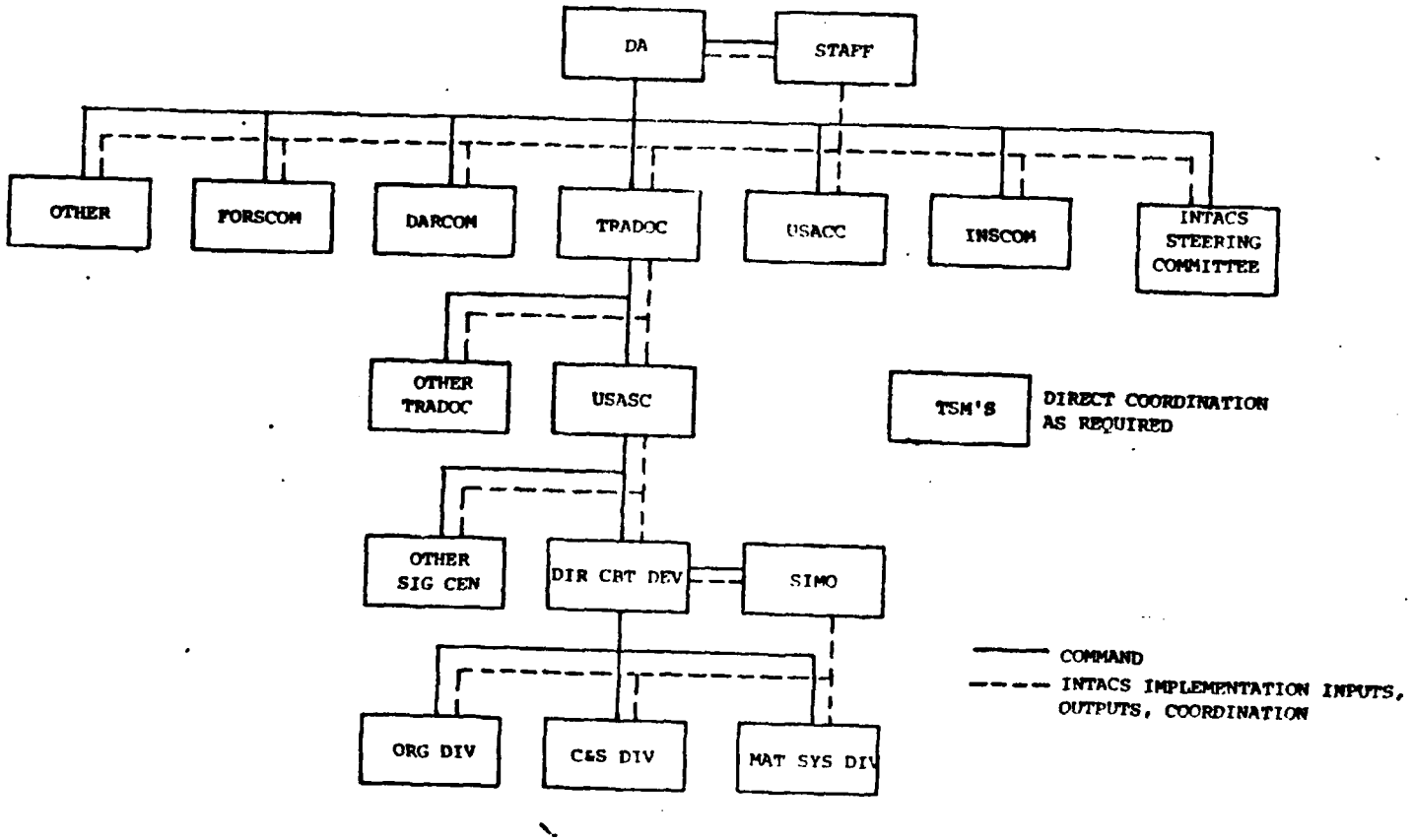


Figure 1. INTACS Integration and Implementation Channels

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9. Managing by Objectives, Paul Mali, Wiley-Interscience

DRAFT

Appendix A. Managing by Objectives[9]

1.0 DESCRIPTION OF THE MANAGEMENT SYSTEM

The management system described herein is the well-known and widely used "Managing by Objectives" method. The method blends individual plans and needs of managers toward a large-scale accomplishment within a specific period of time. It envisions centralized planning and control but at the same time encourages decentralized authority and responsibility. The four basic ingredients are objectives, time strategy, total management, and individual motivation (Figure A-1).

Objectives are events or accomplishments planned and expected to happen. Objectives are job or organization results to be arrived at. The results to be accomplished must be identified as formal objective statements.

Time strategy is the timetable for blending the activities and operations of individual managers to achieve long- and short-range set of results. This strategy forces planning at every level and causes each manager to coordinate all of his activities and resources so as to accomplish a certain thing at designated periods of time.

Total management refers to a formalized effort to involve and coordinate the contributions of each individual manager toward a common goal. It must have an internal management system to better utilize and coordinate the efforts of the members of the organization. The roles and contributions of each individual must be clearly defined in order to manage by objective.

Individual motivation refers to personal involvement and participation in the objective-setting process. Most workers are highly motivated when allowed to participate in all aspects of the unit operations.

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[9] Managing By Objectives, Paul Mali, Wiley-Interscience

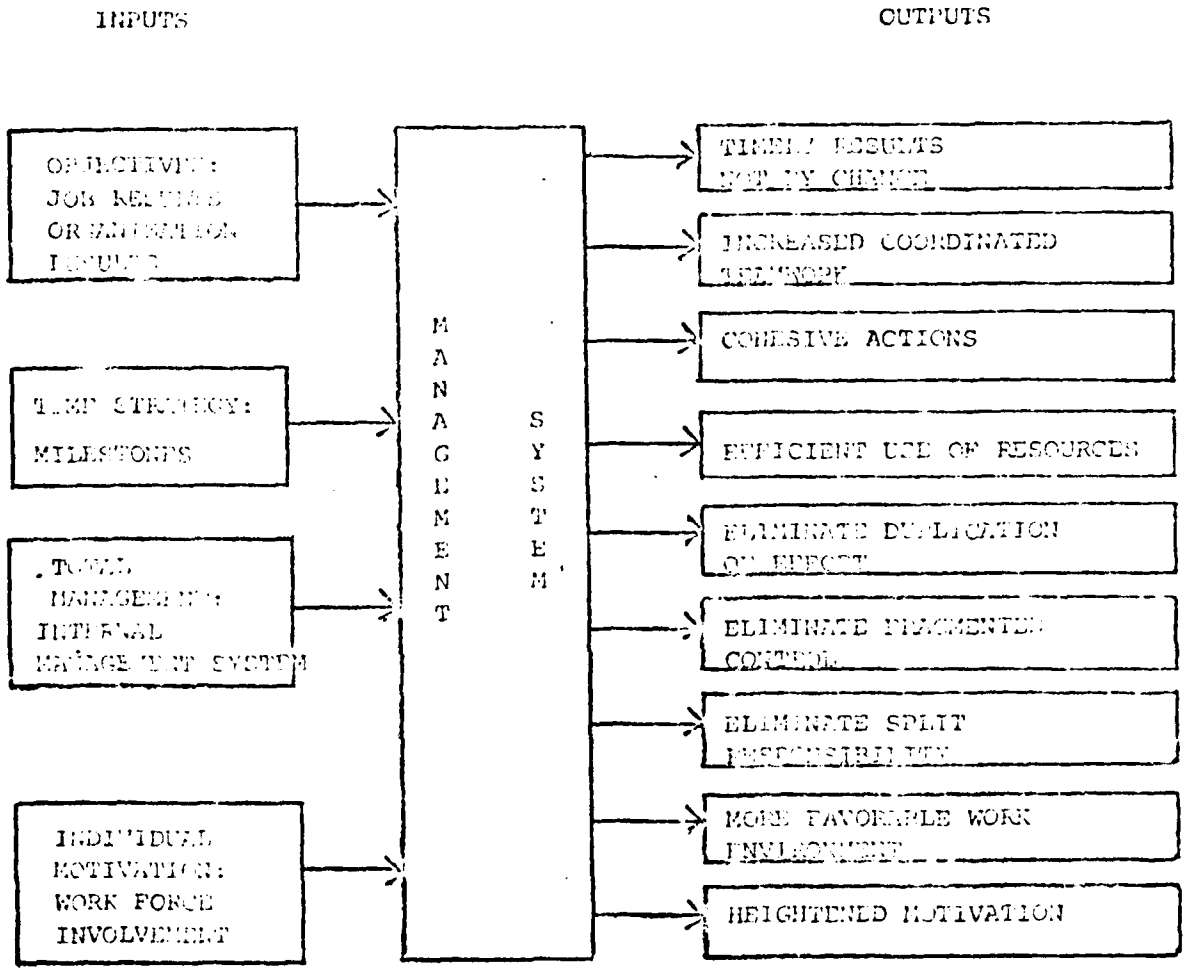

FIGURE A-1 MANAGING BY OBJECTIVE INPUTS & OUTPUTS

2.0 HOW THE SYSTEM WORKS

Managing by objectives is a plan-ahead process with a series of deliberate phases from start to finish. It is a five-phase process. Each activity is carried out in a sequence of steps taken in a certain order. The phases are (Figure A-2):

Phase 1: Finding the objective. As stated earlier, an objective is a job or organizational result to be arrived at. This phase can best be accomplished by a critical analysis of the current organization and jobs and then prepare a list of areas that need improvement. These needed improvements become potential objectives and are characterized by expressions such as:

- To reduce the costs of . . . . . .
- To shorten the time expended for . . .
- To reduce the manpower used to . . .
- To eliminate the confusion that presently . . . .
- To insure that training is scheduled . . . . . .
- To assure timely coordination among . . . . . .
- To develop internal procedures to . . . . . .
- To strengthen the organizational image of . . . .
- To standardize procedures of . . . . . .
- To reduce or eliminate complaints from . . . . .

Phase 2: Setting the objective. This is a formal process of relating the resources of the organization to the involvement of those expected to deliver the results. It is based on the principle, to obtain maximum results from people get them involved and hold them accountable for these results. Each objective must be written to cover a single end result and not a number of commitments. One very appropriate example of a formalized objective would be:

Maintain a once-a-day contact at their work stations and hold a once-a-month work appraisal meeting in office with all immediate subordinates.

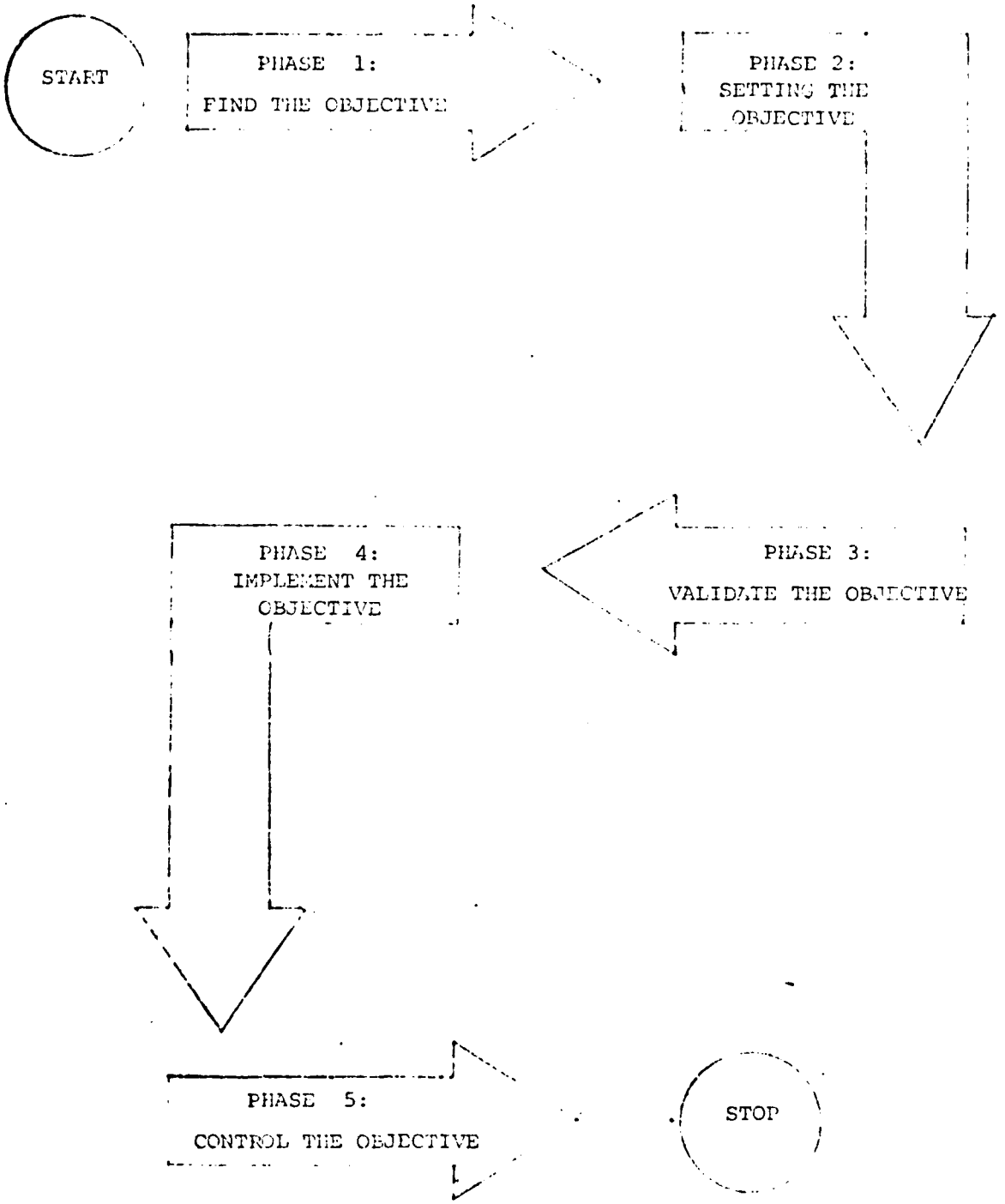

FIGURE A-1 THE MANAGING BY OBJECTIVE PROCESS

Phase 3: Validating the objective. The formal objective statement is subjected to a validation procedure. This procedure insures that all objectives are attainable and discards those that are unattainable or unworthy. The procedure determines the confidence an individual, team, etc, may have that an objective can be reached within its stated time. An analysis is made of risks and possible requirement changes to see where faults or failures may occur during implementation. Finally, the validation procedure translates the statement of objective to a statement of commitment. The validation procedure assures that resources, facilities, materials, methods, people, and management are ready and willing to reach a desired goal.

Phase 4: Implementing the objective. This phase is the implementation strategy to obtain the desired results, namely, the attainment of the validated objectives. This phase will test the manager's ability to motivate his people to perform to and beyond the requirements. The manager must persuade his people that all objectives are worthwhile and attainable and are not of the "make work-look busy " type. Last, but not least, teamwork is necessary to insure coordination of effort, timeliness of events, and completeness of actions.

Phase 5: Controlling and reporting status of objective. This phase is a continuing process that senses deviations of actual progress from expected progress, and reports such deviations for corrective action. No management system is without its problems and troubles, and management by objectives is no exception. As troubles occur, the manager must recognize the problem and its possible cure/remedy. Stress must be placed upon the possible cure as opposed to its cause, otherwise it becomes a futile effort. Frequent progress conferences will help in preventing many of these deviations. In any event, crisis management must be avoided. This occurs most often when managers become over-loaded with day-to-day petty details and fail to supervise their workers and coordinate with other sections, teams, divisions, et al.

3.0 IMPLEMENTATION

3.1 General. Any organization employing the managing by objectives scheme must devote a considerable effort to a number of management processes as described below.

3.2 Planning. The planning sequence is as follows:

- o Review the mission and overall goal, make reasonable assumptions, and decide on objectives.
- o Study various courses of action and select best course of action based upon resources (including time) and requirements.
- o Break up plan into distinct component parts and assign completion dates, where appropriate.
- o Develop alternative plans in outline format.
- o Outline policies and procedures under which the plan will be implemented.

3.3 Organizing. The following principles apply to organizing:

- o Break up mission into its functional parts.
- o Establish organizational relationships, using optimum span of control; avoid too many layers, deputies, administrators, and paper handlers.
- o Select and assign appropriate personnel and other resources to accomplish the functions.
- o Assign duties and responsibilities with commensurate authority, allowing for change in mission or resources.

3.4 Coordinating. Orderly integration of all efforts is accomplished by the following principle:

- o Encourage lateral and vertical coordination throughout the organization but only in matters of substance-avoid unnecessary coordination.

3.5 Controlling. This process insures compliance with plans, orders, directives, and policies as well as necessary corrective action. Considerations are:

- o Decentralize authority to the maximum.
- o Insure that all actions are oriented toward accomplishing the mission.
- o Use the objectives developed in the planning phase to determine realistic and appropriate standards; establish acceptable variances.
- o Evaluate actual results and take corrective action to bring performance up to standard. Make adjustments when appropriate, including the planning function.
- o Consider deadlines; give the action officer-not the paper pusher-the maximum amount of time.

[illegible] TO BE EXPECTED

[illegible] to the previously described management processes, [illegible] can expect the following results; (Figure 7.-1)

[illegible]y results will be less by chance.

[illegible]ntained motivation to achieve, since each "team" member will know what his responsibilities are and how much authority he has to do his job.

Increased coordinated teamwork and cohesive actions.

More efficient use of resources by avoiding duplication of effort and useless work.

A more favorable work environment by eliminating split responsibility and fragmented control.

Appendix B. System Evaluation

After initial analysis and identification of expected system impacts, capability vs. cost of proposed alternative system concepts/refinements can be compared in quantitative terms to current, transition and Objective Systems. Since the analysis is complex, the comparison is assisted by the Automated System Evaluation Program (ASEP) which uses the data bases of AIIMS. These data bases include detailed force/equipment representations called force models, of current (in the field), transition and Objective Systems. The alternative concept or potential refinement must be defined in terms of equipment issue basis and personnel requirements. Since AIIMS contains the total force at different time periods, the evaluator may choose all or some portion (Division, Corps) of the force and time period for the comparison. Table B-I summarizes each program of ASEP.

The inputs to ASEP along with those from AIIMS result in a base time phase system design in terms of the quantities of each type of equipment for each unit in the force. These are inputs required for determining several measures of effectiveness (MOE) in the evaluation process. A sample computer print-out of a base or candidate design equipment assignment, TOELIST, is in Table B-II[6].

The second program, TOEBOIFUP, permits the user to modify a base system to represent the candidate under evaluation.

Inputs of equipment basic data are used to multiply by equipment quantities to determine the eleven MOE shown in the sample computer print-out MOETOELIST, in Table B-III[6]. These inputs and process are defined in reference 6.

Computation of the five MOE: Availability, Command Post Displacement, Set-up/Tear-down Time, Programming, and % Grade of Service Lost (during move) have not been automated. Four MOE: GOS, Speed of Service, Nodes Destroyed and Subscribers Lost must be computed with network-type models and furnished as performance data for the particular concept under evaluation. Computer models are available to USASC for analyzing traffic and simulating multichannel and mobile

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[6] [illegible] Methodology, [illegible] Update Volume 6 Draft

TABLE B-I (2-□)

INTACS

AUTOMATED SYSTEM EVALUATION PROGRAM

PROGRAM	DESCRIPTION
o TOELIST	FOR SELECTED BASE TIME PHASE, FORCE AND EQUIPMENT TYPES, PROVIDES QUANTITIES OF EQUIPMENTS ASSIGNED TO UNITS.
o TOEBOIPUP	MODIFIES BASE PHASE SYSTEM TO REPRESENT CANDIDATE BY ADDING/DELETING EQUIPMENT ASSIGNMENTS.
o MOETOELIST	WITH FURNISHED BASIC EQUIPMENT DATA, e.g. SIZE, WEIGHT, POWER, AND PERSONNEL CALCULATES 11 MOE FOR SELECTED FORCE.
o LCC	WITH FURNISHED HARDWARE, TRAINING, AND PAY COST, COMPUTES LIFE CYCLE COST FOR SELECTED NUMBER OF YEARS.
o GRAPHS-COST VS. CAPABILITY	WITH FURNISHED MOE AND LCC, PLOTS SELECTED OPTIONS OF COST (RESOURCES) VS. CAPABILITY (ATTRIBUTES) OF A CANDIDATE ON A GRAPH WITH BASE SYSTEMS WHICH REPRESENT CURRENT, TRANSITION AND OBJECTIVE TIME PHASES.
o GRAPH-ANNUAL TOTAL COST	WITH FURNISHED EQUIPMENT AND PERSONNEL REQUIREMENTS FOR SELECTED FORCE, PLOTS ACQUISITION PLUS O&S COSTS FOR TWO SYSTEMS (e.g. CURRENT AND OBJECTIVE) FOR A SELECTED PERIOD OF TIME.

subscriber equipment systems. A model is under development for simulating various forms of data distribution systems. The final seven of the total 27 quantitative MOE are derived either from EMC/EMV modeling/analysis or by the evaluation panel. A process for deriving a listing of transmitters and receivers by nomenclature and location to serve as inputs to the EMC/EMV analysis is described in Reference 6.

Basic cost factors defined by AR 11-18 for equipment and personnel are required for new concepts to compute life cycle costs (LCC) of candidates. These factors include R&D, nonrecurring, and recurring hardware costs for each equipment and training cost, pay, and turnover rates for operating and support personnel. Validated cost factors for current, transitio. and Objective Systems reside and periodically updated in AIIMS. The cost data inputs are used to generate LCC for a selected number of years with built-in cost estimating relationships in the LCC portion of ASEP.

The final evaluation and recommendation can be done by the SEP panel[5] experienced in military tactical communications, who determine any remaining quantitative MOE and all the 26 qualitative MOE in view of the MOE values of a previously established base case. In total, the evaluation process considers 27 quantitative and 26 qualitative MOE and life cycle costs for each candidate. The whole evaluation process is prepared and conducted in an orderly fashion to provide results in a short time. This is made possible by proper preparation and by automated assistance in determining MOE and cost values.

An attribute of the ASEP is the computer-graphing, presentations options which highlight significances in capability vs. cost of candidates for decision makers. The last section of Appendix B is an excerpt from INTACS update documentation which describes how the graphs are constructed by computer. Values of MOE are converted to utility allowing aggregation of multiple MOE values. Several options of aggregations of capability such as timeliness, viability, EMC and cost (e.g. dollars, personnel, equipment) can be graphed to show evaluation result comparisons of candidates. Figure B-1 is one computer-graphed

SRC NO.	UNIT DESCRIPTION (ROLL-UP SRC)	QUANTITY IN FORCE
07450	INF BN	5

SRC NO.	UNIT DESCRIPTION (SUB-SRC)	LIN NO.	LIN DESCRIPTION	QUANTITY IN ROLL-UP SRC
07450	BN HDQ			1

		EQUIPMENT QUANTITY	TOTAL EQUIPMENTS
AA0024	M577 TAC CP	2	2
AA0026	BN CP COMM TRACK	2	2
AA0043	SB-22	7	7
AA0082	GRA-(GARS)	12	12
AA0092	TA-312	57	57
AA0106	KY-57 SPEECH SECURE EQUIP	0	0
AA0115	KYK-13/TSEC CODE SET DEVICE	0	0
AA0119	SB-993	6	6
AA0147	TRTF	1	1
AA0150	CONVERTER,CV-COTL	7	7
AA0183	TACSAT SC VEH TML	1	1
AA0187	TRC-63 SML UNIT TCR	45	45
AA0191	CRC(I)(V1)PANP-SINCGARS	69	69
AA0193	CRC(I)(V5)VEH-SINCGARS	21	21
AA0194	CRC(I)(V4)VEH-SINCGARS	28	28
AA0197	CRC(I)(V3)VEH-SINCGARS	60	60
AA0366	VIC-1	4	4
V30252	TA-1/PT TELEPHONE SET	75	75

•••••TOTAL EQUIPMENTS FOR 07045H IN THIS FORCE STRUCTURE

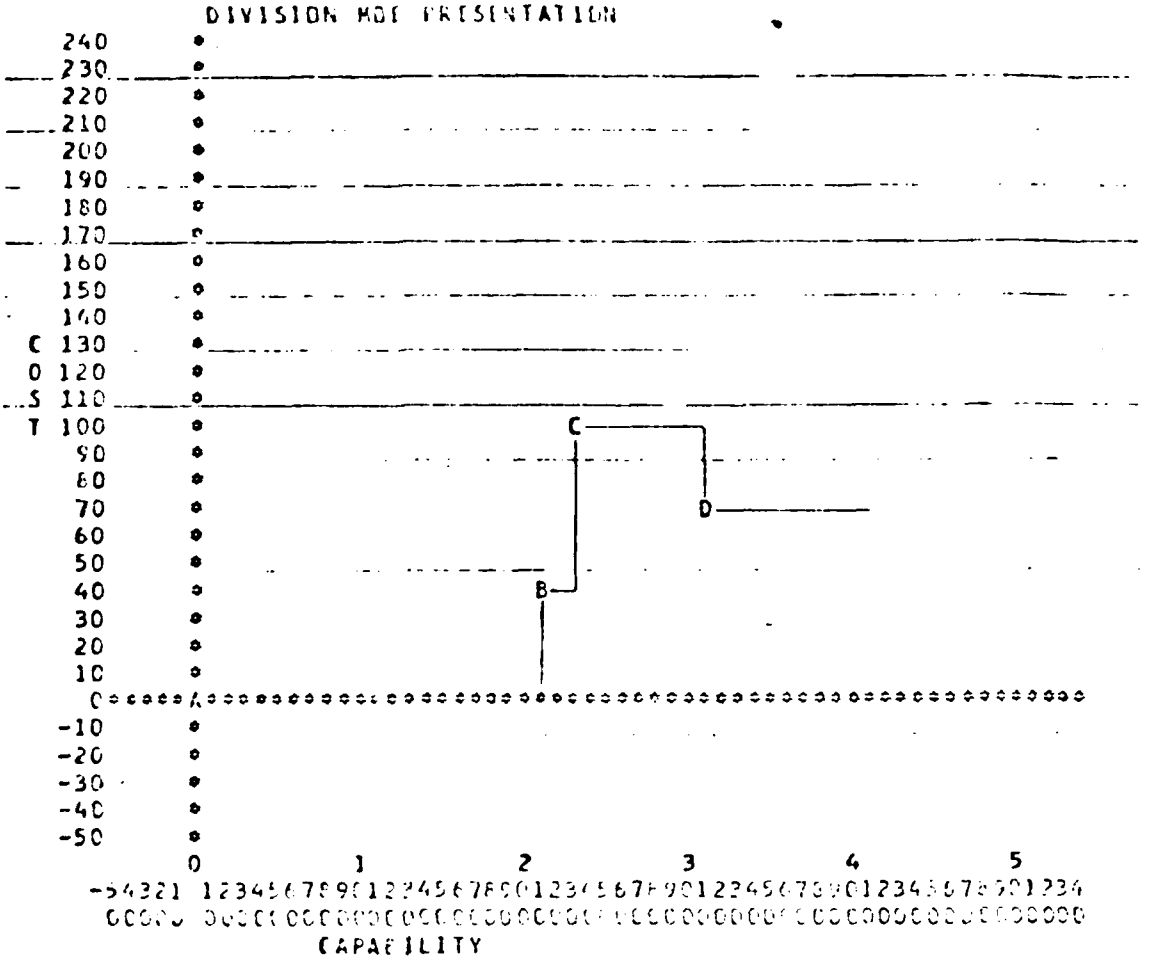
AA0024	M577 TAC CP	2	10
AA0026	BN CP COMM TRACK	2	10
AA0043	SB-22	7	35

TABLE B-II TOELIST SAMPLE

TOTAL EQUIPMENTS AND MUE FOR THIS FORCE STRUCTURE

LIN NO.	LIN DESCRIPTION	#/FORCE	WEIGHT	VOLUME	POWER	PM MOTE	PM TOT	CM MOTE	CM TOT	VEH	PRSNL	SECSU
AA0001	TCC-174 RPD RPTR	8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0012	ACS CP COMM TRACK	7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0013	A/M BDE CP COMM TRACK	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0016	TSC-(P)	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0018	DIV SSO COMM ASBL	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0021	MSC (MBL SUP CNTRL)	6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0024	M577 TAC CP	16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0026	BN CP COMM TRACK	22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0031	DTOC COMM ASBL	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0032	DTOC STAFF COMM ASBL	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0033	DISCOM COMM ASBL	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0034	FASC/SPT BN COMM ASBL	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0035	DIVARTY COMM ASBL	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA037A	TSC-61	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
AA0380	TSQ-71	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
Q50421	AN/VRC-24 RADIO SET	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
V30252	TA-312/PT TELEPHONE SET	775	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0
	TOTALS	9521	102255.0	2328.6	212489.5	3485.2	23581.0	8899.2	30645.5	0	52	0

EQUIPMENT CATEGORIES FOR THIS CANDIDATE IS 67
PREVENTIVE MAINTENANCE (PM) EXPRESSED IN MANYEARS FOR THIS CANDIDATE IS 5.3
CORRECTIVE MAINTENANCE (CM) EXPRESSED IN MANYEARS FOR THIS CANDIDATE IS 4.0
WEIGHT IN TONS FOR THIS CANDIDATE IS 51.1
PERCENT PM WITHOUT TEST EQUIPMENT FOR THIS CANDIDATE IS 13.6
PERCENT CM WITHOUT TEST EQUIPMENT FOR THIS CANDIDATE IS 29.0
POWER EXPRESSED IN KILOWATTS(KW) FOR THIS CANDIDATE IS 212.5
TOTAL VOLUME (CUFT) IS 2329.6
TOTAL NUMBER VEHICLES IS 0
TOTAL NUMBER O & S PERSONNEL IS 52
TOTAL NUMBER SEC OF SUBSCRIBERS IS 0



CANDIDATE FORCE MODEL	GRAPH DESIGNATOR	COST FACTOR	CAPABILITY FACTOR
F-1 (CURRENT)	A	0.	0.
F-2 (INTERIM)	B	44.	210.
F-3,4 (TRANSITION)	C	95.	227.
F-5 (OBJECTIVE	D	67.	309.
XXXXX	E	0.	0.
XXXXX	F	0.	0.
XXXXX	G	0.	0.
XXXXX	H	0.	0.

NOTE : DUE TO THE SIZE OF THE GRAPH, TWO OR MORE POINTS MAY BE COLOCATED. CHECK THE ABOVE TABLE TO DETERMINE IF THIS IS THE REASON A GRAPH DESIGNATOR IS ABSENT

Figure E-1 Cost factor-life cycle cost, capability factor-figure of merit.

example of Figure of Merit (Capability) vs. Life Cycle Cost for the division portion of the Force Models in AIIMS. Force Model (F-1) represents current TOE and is the baseline or reference. F-2 is interim improved ATACS, F-3 and F-4 represent the transition (mid-1990) systems, and F-5 is the Objective System. With F-1 at the origin (reference), the graph shows that: for $44M more than F-1, F-2 provides 210 more utility; for $67M, F-5 provides 309 more utility than F-1.

With the aggregations of MOE done automatically by the computer, the analyst/decision maker has options to select graphs for a number of capability vs. cost areas and categories as shown in Table B-IV. The example of preceding Figure B-I is the option of Menu No. 12 Figure of Merit (Capability) vs. Menu No. 22 Life Cycle (Cost).

TABLE B-IV EVALUATION PRESENTATION OPTIONS
MENU FOR COST/CAPABILITY GRAPHS

Menu No.	Cost	Area	Category	Major	Total
13	Standardization	14			
14	Transportability	11			
15	Logistics support	6			
16	Operability	4			
17	Maintainability	5			
18	RF spectrum requirement	13	4		
19	Equipment		5		
20	Personnel		6		
21	Cost			2	
22	Life cycle cost (LCC)				2
	Capability				
1	Reliability	1			
2	Quality of service	2			
3	Mobility	7			
4	Flexibility	3			
5	EMC	9	1		
6	Security	8			
7	Vulnerability	10			
8	Survivability	12			
9	Timeliness		2		
10	Viability		3		
11	Capability			1	
12	Figure of merit (FOM) (Capability + Cost)				1
	Number graphs	48	9	1	1
Preferred graphs:					
17-1	Maintainability vs. reliability	X			
19-9	Equipment vs. timeliness		X		
20-9	Personnel vs. timeliness		X		
20-10	Personnel vs. viability		X		
21-11	Cost vs. capability			X	
22-11	LCC vs. capability			X	X
22-12	LCC vs. FOM				X

Another graph, useful for comparing systems, shows annual total cost, (Figure B-2), which is generated for both the current and the Objective System, or a candidate. Equipment R&D and Investment Costs are derived from the annual equipment acquisition schedules generated in AIIMS summed for all equipments acquired each year. The Operations and Support (O&S) costs are computed by the automated program based on the planned O&S personnel strength inputs from the TOE and Unit Description Sheets (UDS), or direct personnel requirements inputs. This summation shows how two systems compare in total costs over a period of time.

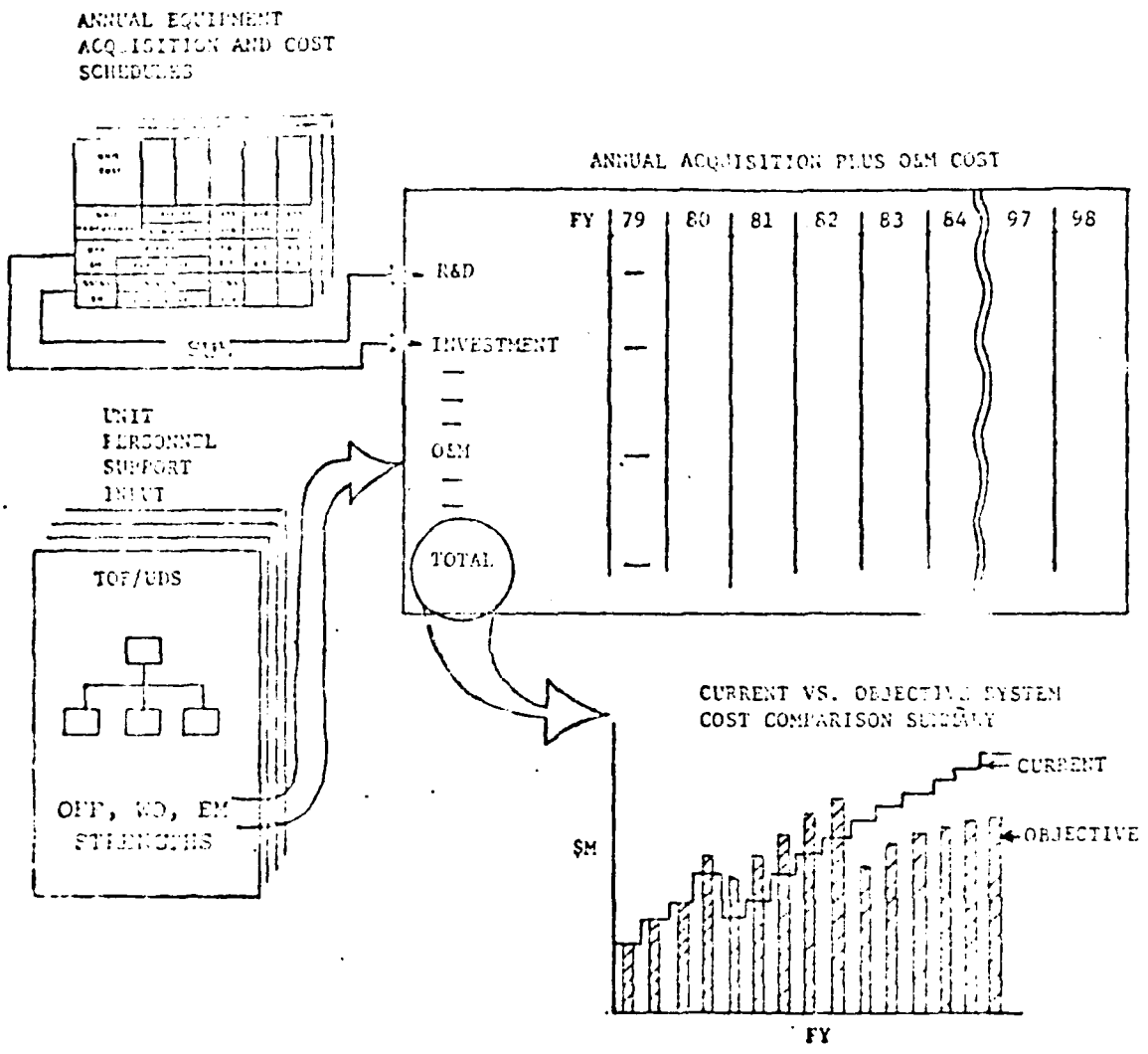


Figure B-2 Annual Total Cost

Capability vs. Cost Graph Presentations[8]

A procedure for graphically depicting the model's output provides for correction [illegible] to a file [illegible] "capability [illegible]" from which various forms of capability vs. cost graphs can be [illegible]ted. The cost term is used here in a more general sense than just dollars. The MOE, which represent expenditure of resources (e.g., personnel), are considered to be a cost type.

The 53 MOE used within the original [illegible] study consist of both quantitative and qualitative factors and were [illegible] by [illegible] utility theory into 14 Areas (see [illegible] of table B-I. An examination of the MOE definitions and their Areas reveals that they can be classified as either capability [illegible] or cost [illegible] (table B-V [illegible] that are [illegible] of the cost type. Figure B-3 presents the quantitative [illegible] capabilities of a system and the eight Areas [illegible] in the [illegible]ACS study. The eight Areas are then [illegible] into [illegible] and finally into a major total capability. Figure B-4 [illegible] this process for the cost-type MOE.

With the [illegible] the option to select [illegible] of the possible Area or category [illegible] category combination of capability. In addition, [illegible] capability within the program to [illegible] capability, which is a figure of merit (FOM), [illegible] LCC. All the [illegible] preceding table B-IV with the seven preferred graphs listed at the bottom.

Figures B-5 and B-6 illustrate examples of [illegible] which depict data from the original [illegible] Study. In the first graph, [illegible] utility for capability MOE (Menu No. [illegible]) are plotted vs. those MOE representing expenditure of resources (Menu No. 2[illegible]) for each candidate BRAVO, CHARLIE and GOLF. ALPHA is the [illegible] or [illegible] represented by the origin of the graph. This graph [illegible] that BRAVO and CHARLIE have significantly increased capabilities, but their costs are just a little more and a little less than ALPHA, respectively. GOLF has even greater capability [illegible] than ALPHA [illegible] than ALPHA. The second graph (figure B-6) [illegible] capability FOM (Menu No. 12), which is all quantitative [illegible] more than ALPHA (in [illegible]) in dollars (Menu No. [illegible]). This graph illustrates [illegible] little [illegible] the other [illegible] (Menu No. 37[illegible]). Preceding Figure B-I is a similar example of a computer-graphed presentation of evaluation data for the Division.

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[8] [illegible] Summary [illegible], Final Report, Vol. [illegible].

TABLE B-V QUANTITATIVE CAPABILITY AND COST AREAS

Area	Capability	Cost	MOI
Reliability	129		
Quality of service	114		
Flexibility	12		
Operability		25	Personnel
Maintainability		55	
Logistical support		61	Power
Mobility	55		
Security	8		
EMC	50		
Vulnerability	36		
Transportability		33	Volume, weight, vehicle
Survivability	40		
RF Spectrum		22	
Standardization		39	Equipment category
Total utility	(444) +	(235) =	679 FOM
Life cycle cost, M$			

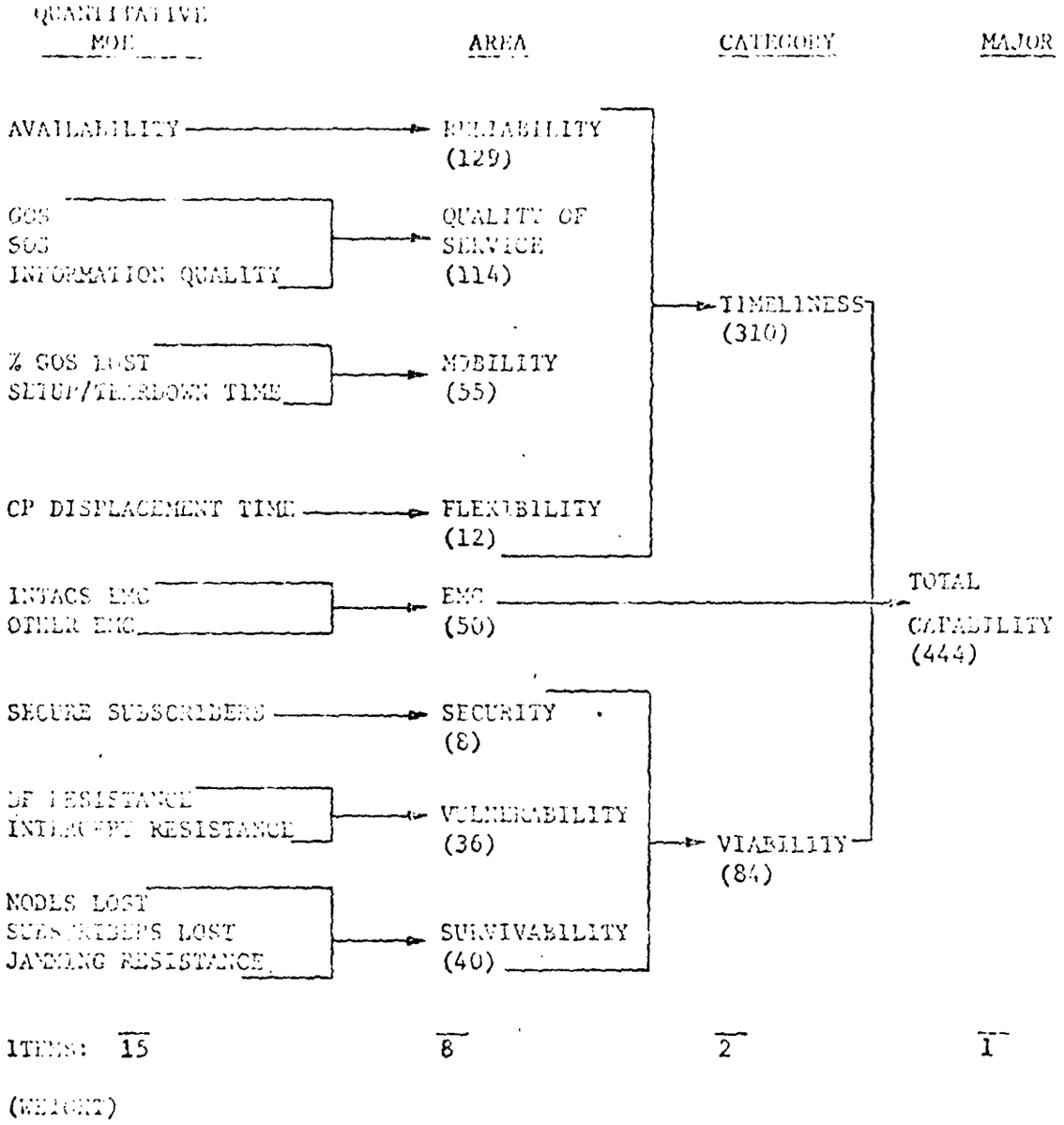


Figure B-3 Capability MOE aggregation.

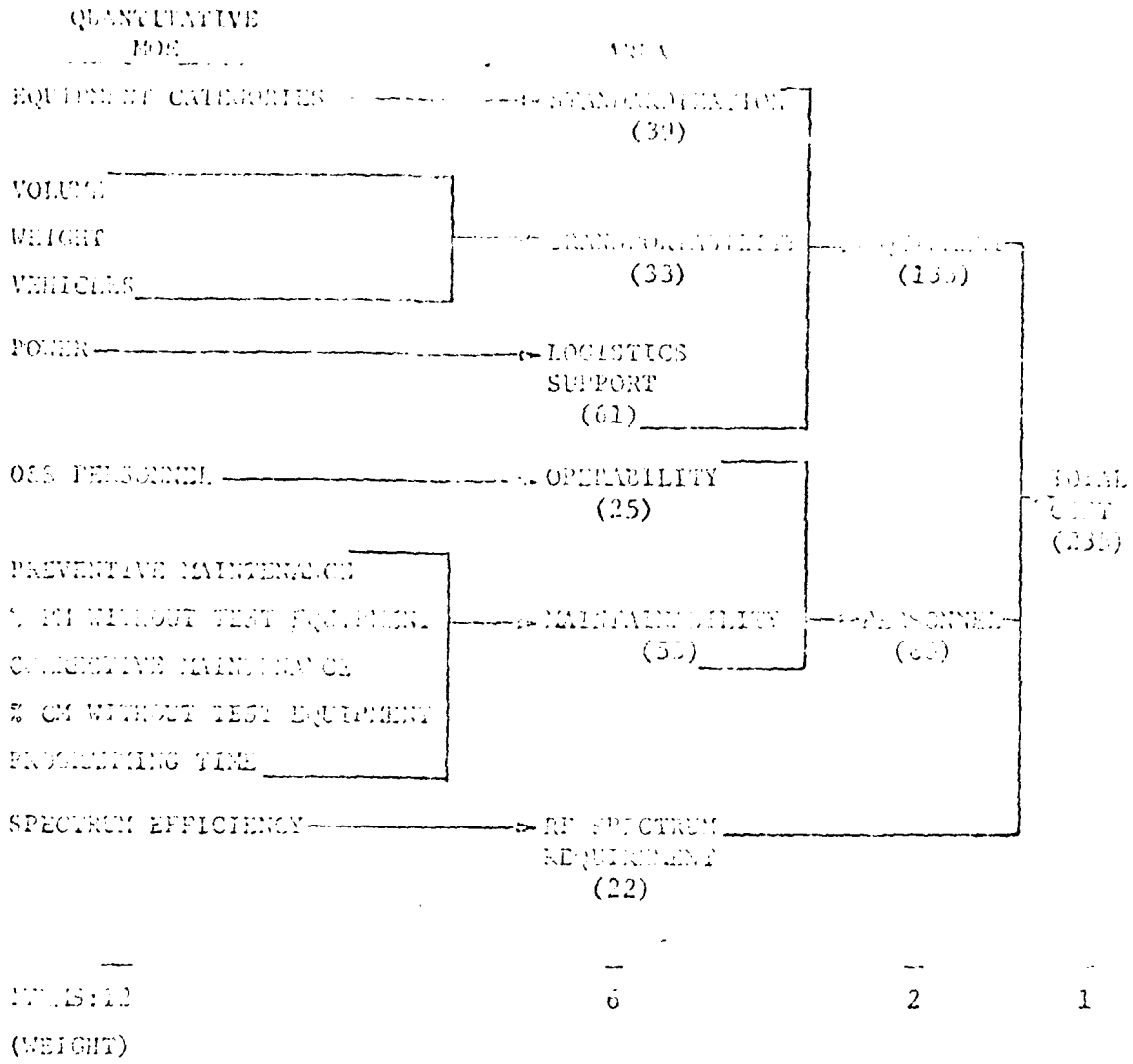


Figure B-4 Cost type MOE aggregation.

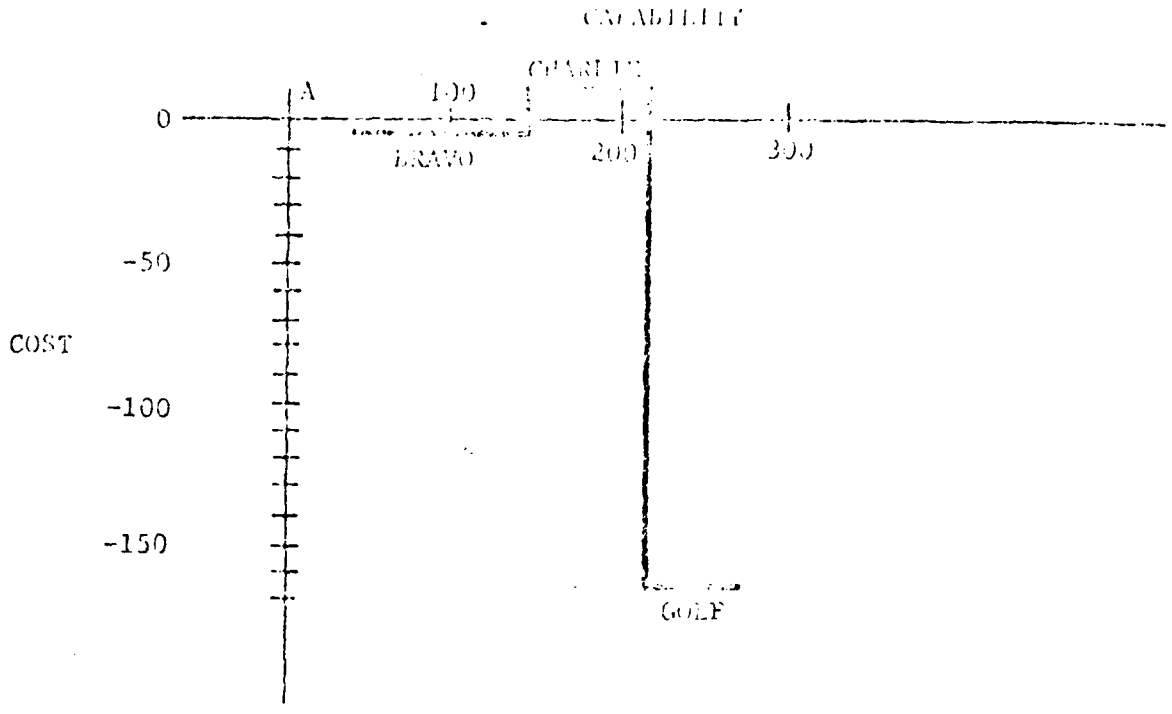


Figure B-5 Original INTACS cost MOE vs. capability MOE.

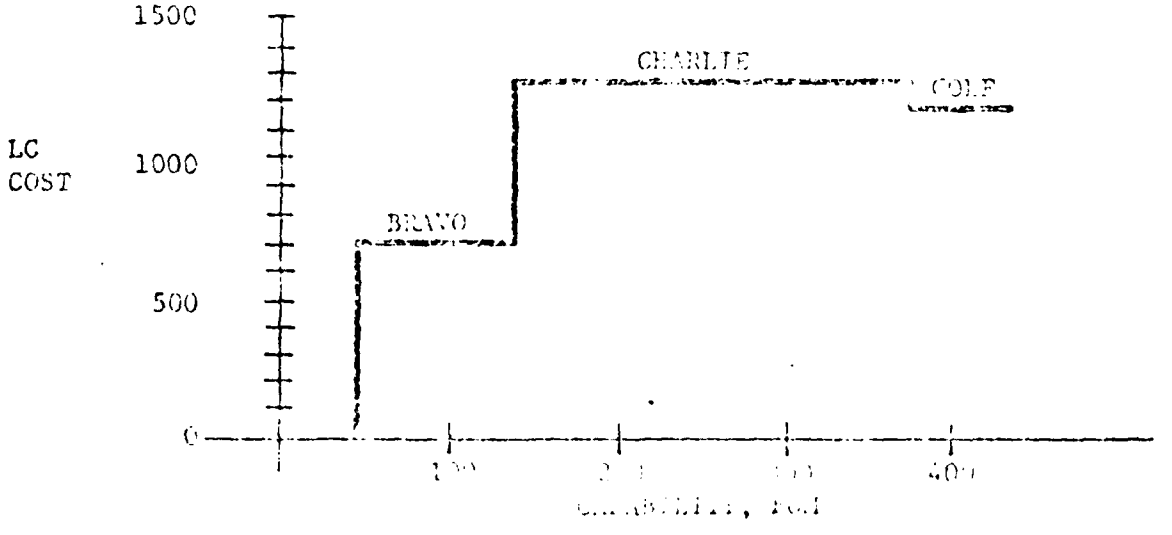


Figure B-6 [illegible] INTACS [illegible]

A data base was established using the INTACS ALPHA, BRAVO, CHARLIE, and GOLF candidates MOE and resultant utility for the Division area. As new systems are evaluated using the Integrated Methodology, their MOE can be entered into the data base, and the Data Presentation Program computes utility, rolls into Areas and Categories, and graphs their utility along with INTACS ALPHA, BRAVO, CHARLIE and GOLF.

Systems are summarized from the INTACS Study in terms of major equipment and doctrine structure with emphasis on Division. Brief identification and what each of the four systems represent are listed on table B-VI. The GOLF candidate was ultimately refined into the Objective System. Task V, Volumes II-A and B, contain a detailed technical description of each candidate; Volume IV contains the detailed cost and effectiveness evaluation for all 19 candidates and excursions.

TABLE B-VI. INTACS CANDIDATE SYSTEMS

Original	Representation
ALPHA - Baseline	1976 system
BRAVO - Improved ATACS, TACSATCOM, SINCGARS & VINSON	Current system
CHARLIE - TRITAC in corps MSE for Bde	Transition system
GOLF - MSE for div-Bde, TDMA TACSATCOM, Integrated network EW	Objective system

Appendix C. Automated System Management Information Program

As shown in Figure C-1, the System Management Information Program puts all of the automated reports together and provides them to users. Inputs and the output utilization procedures for AIIMS are defined in the Transition Plan, and are summarized below.

The AIIMS contains inputs for the force as it currently exists as well as the out years that have been planned and priorities per DAMPL. Since the primary requirements of AIIMS is to plan acquisition and fielding of communications equipment, the AIIMS data base must possess information in regard to projected equipment

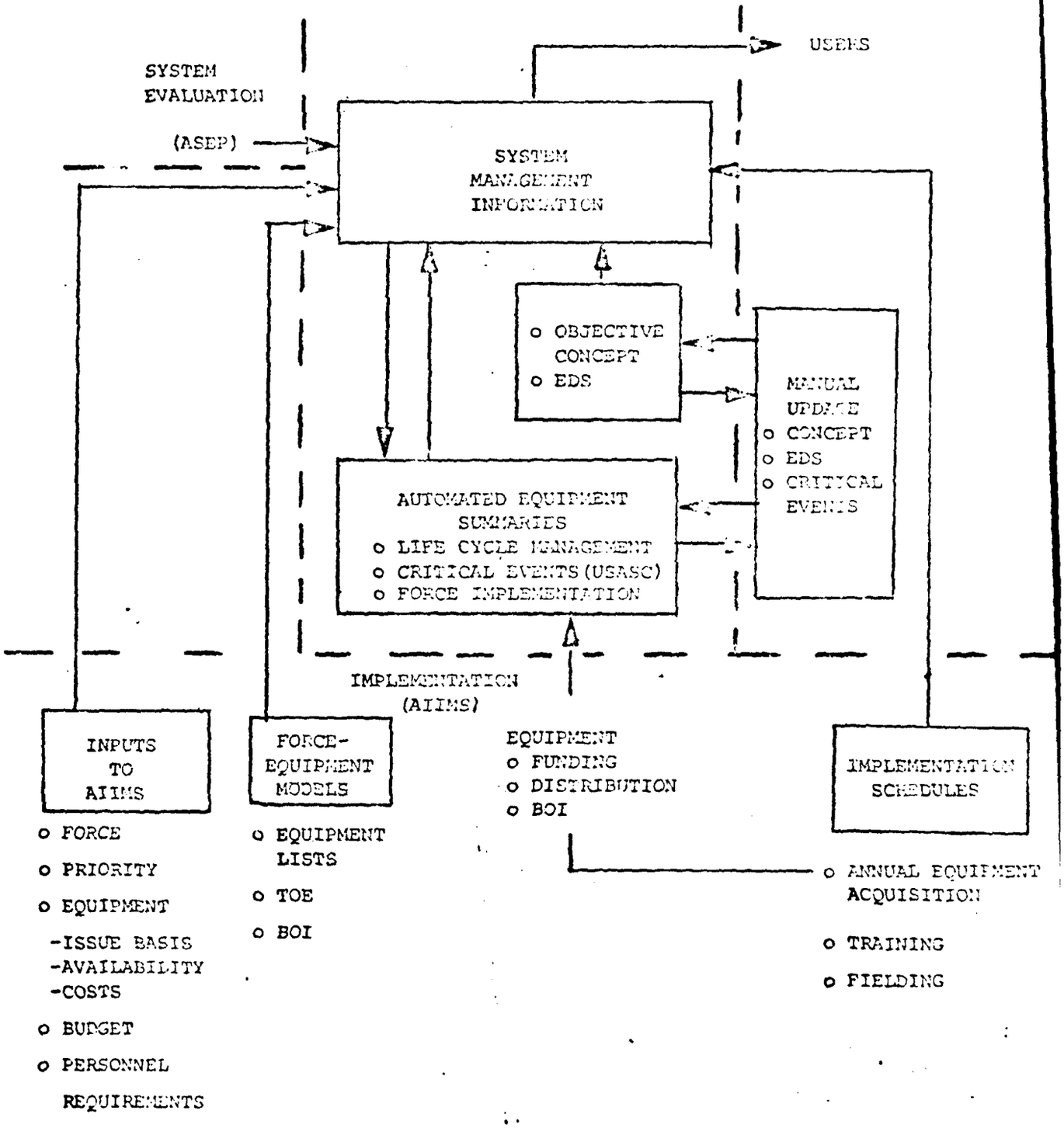


Figure C-I (2-6) SYSTEM MANAGEMENT INFORMATION

costs, issue basis, and availability in terms of initial Operational capability (IOC) and production rates, yearly budgets, and personnel requirements.

The following printed listings describe each of five Force Equipment Models which represent current, transition and Objective Systems:

1. EQUIPMENT IDENTIFICATION LIST
   Lists and identifies equipment by Key Nr, Nomenclature, IOC.
2. EQUIPMENT SUMMARY BY FORCE
   Provides Force and equipment totals for Active, National Guard, Reserve and Total Force.
3. EQUIPMENT ASSEMPLACES BY FORCE
   Provides assemblage and component totals for Active, National Guard, Reserve and Total Force.
4. COMPONENTS TO ASSEMBLAGES BY FORCE
   Gives total of components and total of the assemblages where they are found by Active, National Guard and Total Force.
5. END ITEM ASSOCIATED/ANCILLARY EQUIPMENT LIST BY FORCE
   Lists end items and their associated equipment by Active, National Guard, Reserve and Total Force.
6. BOI FILE BY FORCE
   Provides equipment list and units in which it is found by Active, National Guard, Reserve and Total Force.
7. TOE FILE BY FORCE
   Lists TOEs and equipment therein by Active, National Guard, Reserve and Total Force.

The format of the seven Force Equipment Lists described above are used also to describe the current and planned systems.

From these inputs and Force-Equipment Models, AIMS has the ability to predict implementation of new systems. The first part of the implementation plan schedules the acquisition of each equipment. This schedule directly provides the unit procurement funding distribution and BOI portions of the Life Cycle Management Summary for each equipment. Then, this acquisition set of schedules is used as the basis for

developing the materiel fielding portions of the plan. That is, selected schedules will be provided by the Systems Integration and Management Organization to responsible agencies as a basis for returning training and logistics planning inputs. Training schedules contain beginning of training dates, span time and number of each MOS to be trained. With training personnel and logistics inputs incorporated, annual materiel fielding schedules are developed for each equipment in a format that relates equipments to units.

In addition, the System Management Information Program reports the Objective Concept, Equipment Description Sheet, and adds major critical events to the acquisition schedules which then becomes the Life Cycle Management Summary. Detailed critical events of concern to USASC are listed. Concept EDS and critical events are manually provided and updated.

A Force Implementation Summary graph shown in Figure C-2 is a plot of the Annual Equipment Purchase List from AIIMS. This list is a summation of the individual equipment acquisition schedules. Since AIIMS assigns equipment to active and planned units per BOI and computes yearly cost to stay within budget, it can identify the time when new equipment for selectable prioritized segments of the force will be bought out. Cost per year will never exceed budget, but can be significantly less due to other constraints such as IOC and production rates. AIIMS can also identify categories of equipment such as ATACS and TRI-TAC. Examples of prioritized force segments are:

Force 1. 4 Divisions, 2 Corps

Force 2. 5 Divisions, 2 Corps

Force 3. 7 Divisions, 1 Corps

Force 4. 8 Divisions, Reserve and National Guard

The area under the curve represents the total cost of equipment for the respective segment of the force. Therefore, the example graph of Figure C-2 predicts that new equipment (Improved ATACS and TRI-TAC) will be bought out for Force 1 in FY 1985 within the given budget.

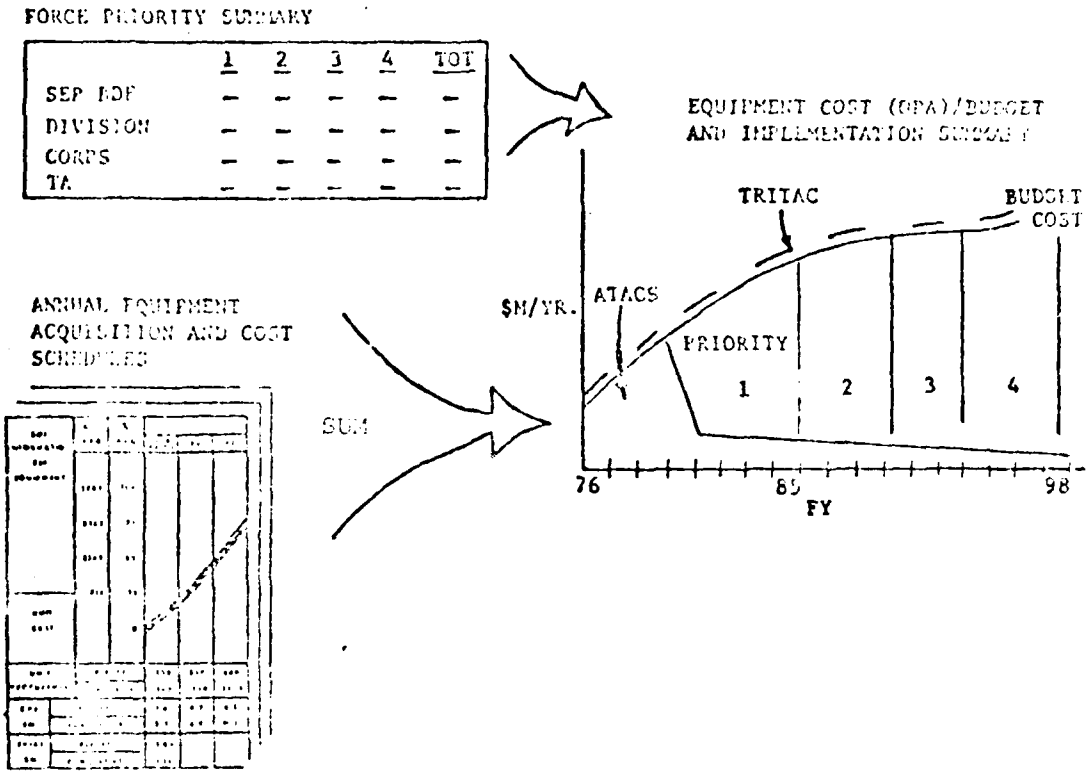


Figure C-2 Force Implementation Summary

A summary of automated reports with purpose of each is provided in Table C-I. The System Evaluation Program, ASEP, produces the first five reports which were described under the System Evaluation process in the Management Plan. These reports are used to provide convincing evaluation data on candidate refinements.

AIIMS will report its own inputs to provide the basis for implementation plans. Force Models which represent current, transition and Objective Systems provide reports in TOE, BOI form, and equipment lists. These reports directly support update of the Architecture document. These same report formats are useful also for describing any of the systems by year including the current system to provide status. The implementation plan of INTACS is represented by the three schedules listed.

Funding and distribution data for each equipment as derived from AIIMS is combined with additional major critical events to provide the Life Cycle Management Summary. Manually provided critical events per DA PAM 11-25, Life Cycle Management Model, pertaining to USASC activities are presented in detailed format. The Force Implementation Summary predicts when the force will be implemented with new equipment by priority.

Additional manually-updated reports from System Management Information which include the critical events mentioned are descriptions of Objective Concept and Equipment Description Sheets (EDS) for Architecture updates. Tables C-II and C-III summarize thrust and advantages of the Objective Concept.

TABLE C-I (2-IV) AUTOMATED REPORTS

PROGRAM	REPORT	PURPOSE
SYSTEM EVALUATION (ASEP)	EQUIPMENTS PER UNIT (TOELIST)	BASE SYSTEM AND CANDIDATE DESIGNS
	MOE (MOETOELIST)	EFFECTIVENESS
	LCC	COST
	CAPABILITY VS. COST GRAPHS	SUPPORT EVALUATION
	ANNUAL TOTAL COST GRAPH	ALTERNATIVES COMPARISON
IMPLEMENTATION (AIIMS)	INPUTS	BASIS OF PLAN
	FORCE MODEL	ARCHITECTURE UPDATE
	-TOE	-ULS
	-BOI	-EQUIP DISTR
	-EQUIPMENT	-IMPL GUIDELINES TRANSITION STEPS
	CURRENT SYSTEMS	STATUS SPECIFIC UNITS
	SCHEDULES	IMPLEMENTATION PLAN
	-EQUIP ACQ/DISTR*	
	-TRAINING	
	-FIELDING	
ADDITIONAL (SYSTEM MANAGEMENT INFORMATION)	CRITICAL EVENTS	LC MANAGEMENT
	-MAJOR*	-SUMMARY*
	-DETAILED	-USASC
	FORCE IMPL SUMMARY	PREDICTED FORCE IMPLEMENTATION
		ARCHITECTURE UPDATE
	CONCEPT THRUST AND ADVANTAGES	-OBJECTIVE CONCEPT
	EDS	-CONT SUPPORT PLAN

* Equipment Acquisition and Distribution together with major critical events (Development Milestones) becomes the Life Cycle Management Summary.

TABLE C-II OBJECTIVE SYSTEM CONCEPT

CONCEPT	SWITCHING		M/C TRANS-MISSION	COMSEC	TCCF	RECORD TRAFFIC	SCA	S/C TRANS-MISSION	CP		TERMIN
	NODAL	UNIT LEVEL							TOC	DISTRI-BUTION	
OBJECTIVE [illegible] Integrated Uni-Area [illegible] System for [illegible]. Digital Systems w/Analog Interface. DA TDMA TACSAT. MSE.	Auto Space & Time Div 300/600L for entire Theater & Corps	Additional 30-150L ULS for entire Theater. CV-Dig for small analog switches.	DA TDMA TACSAT TRI_TAC M/C LOS MSE in Division above Brigade	TENLEY, VANDAL all echelons	CSPE, CSCE & CNCE for entire Theater	Msg Sw 50L & 12L. MTCC MRTF	ANRI entire Theater MSE in Division above Brigade	DATDMA TACSAT and SINCGARS all echelons	Selective Intercom at Corps Integrated Components at Div	Auto Sw at Corps and Theater MSE at Div	DSVT, DNVT at all echelons

TABLE C-III OBJECTIVE SYSTEM CONCEPT ADVANTAGES

- o MOST COST EFFECTIVE, REFINED, APPROVED
- o RECOGNIZES REQUIREMENTS, STANDARDS AND GOALS

BN, CO, PLT

SINCGARS	SMALL, RELIABLE, IMPROVED FREQUENCY UTILIZATION & MAINTENANCE
DIGITAL FAX	GREATLY IMPROVED RECORD TRAFFIC

SEP BDE, DIV

MSE	INTEGRATED MOBILE TELEPHONES, SWITCHING, SECURITY, RWI & COMMUNICATIONS CONTROL
TACSATCOM	RAPID, RELIABLE, TERRAIN-INDEPENDENT

CORPS, THEATER

AUTOMATIC, SECURE TELEPHONES/SWITCH CARDS	FAST RELIABLE
TACSATCOM	SKIP NODE CAPABILITY
AUTOMATIC MESSAGE SWITCHES WITH HIGH SPEED TERMINALS	ERROR-FREE, FAST, PERSONNEL SAVINGS
AUTOMATED CONTROL	COMBINED CMD & AREA, RESPONSIVE

Appendix D. System Integration and Management Relationships

RELATIONSHIPS OF FUNCTIONS TO COORDINATION OFFICES/AGENCIES.

The management relationships of Systems Integration are unusual because of the involvement with many agencies. All those engaged in tactical communications activities are involved because the actual implementing actions of other agencies must be known to Systems Integration while information on Architecture, integration and planning actions must be provided by Systems Integration. Therefore close coordination is required with all organizations in the area of tactical communications. This is indicated in the preceding description of methodology and is shown in detail by the matrix relationship in Table D-I . Each function, as listed in the Management Plan is shown in brief form in column 1 of Table D-I for easy reference. The letter "X" identifies each office/agency that requires close coordination to perform each function.

Function #1. This is a staff advisory function which requires coordination with many headquarters and agencies in the establishment of systems integration policies. This will include other Military Departments (MILDEPS) to insure orderly integration and interface of the INTACS. The end product of this function will be the current, detailed transition plan for the INTACS.

Function #2. Since such conferences are very often decision type forums, the Systems Integration Conferees must be prepared to discuss the systems integration in depth and be conversant with the requirements of all MILDEP's. Must formulate USASC's position on all systems integration matters and speak/vote accordingly. Conferees must be capable of operating as free agents in the performance of this function.

Function #3. Briefings on INTACS and AIIMS will be conducted on a "as required" basis to insure full support for the INTACS effort and prevent misunderstandings concerning the status of and plans for the INTACS and AIIMS.

Function #4. This is a managerial function in compliance with AR 5-5, The Army Study Program or AR 18-1, Management Inform tion

TABLE D-I FUNCTIONS AND COORDINATION OFFICES/AGENCIES

COORDINATION OFFICES/AGENCIES / FUNCTIONS	[illegible]ASC	JUD	DUD-HSD DIV	DUD-CSS DIV	DUD-ORGN DIV		DTD	[illegible]	DOE	DCEMM	C-E BOARD	[illegible]-TACSAT	[illegible]M-AJ SW	[illegible]	[illegible]M-ATACS	[illegible]-PSN/ADPS	[illegible]AC	[illegible]OIC	[illegible]CDA	[illegible] ACC	CERCOM	[illegible]ADCOM	[illegible]SA	[illegible]-TAC	DA	AIR FORCE	NAVY	MARINE CORPS	[illegible]RCOM	[illegible]M-ATACS	[illegible]M-[illegible]S	[illegible]M-SIN[illegible]ARS	PM-[illegible]/TIDS	[illegible]ANCOMA	
[illegible]: 1. [illegible] direction and [illegible] for all INTACS [illegible] sys- [illegible] and	X	X	X	X														X		X	X	X	X	X	X	X	X	X	X						
2. [illegible]	X	X															X				X	X		X	X							X		X	
3. [illegible] on [illegible] INTACS & ATIMS	X	X	X	X	X		X	X	X		X		X			X	X	X																	
4. [illegible] direction for [illegible] supported	X			X																															
[illegible] ARCHITECT & EVALUATION																																			
5. [illegible] & Issues source [illegible] architecture, [illegible] & implementation			X		X															X	X	X	X	X	X										
[illegible]																																			
[illegible]																																			

TABLE D-I (Cont'd) FUNCTIONS AND COORDINATION OFFICES/AGENCIES

FUNCTIONS \ COORDINATION OFFICES/AGENCIES	[illegible]	DCD	[illegible]-MSD DIV	[illegible]-CSS DIV	CSD-[illegible] DIV		OTD	LOT	DOE	DCRMM	C-E BOARD	TRI-TAC [illegible]	TSM-AD SW	TSM-SINCGARS	TSM-ATACS	TSM-MSE/ADDS	TRADOC	LOGC	CACDA	USA[illegible]	CERCOM	CORADCOM	NSA	TRI-TAC	DA	AIR FORCE	NAVY	MARINE CORPS	[illegible]	PM-[illegible]TACS	[illegible]	PM-[illegible]	PM-[illegible]	SATCOMA	
[illegible] (Cont'd):																																			
9. [illegible] Field & Technical Manual [illegible] systems [illegible]	/						X										X		X	X						X									
[illegible] PLANNING:																																			
10. [illegible] strategy for implementing transition and [illegible] systems			/																		X	X	X	X	X										
11. [illegible] and [illegible] assets [illegible] of training [illegible] and plans			X				X								X		X				X	X	X	X						X	X	X		X	
12. [illegible] and [illegible] constraints [illegible] in AIMM			X				X														X	X	X	X	X					X	X			X	
13. [illegible]			X		X		X	X																						X					
14. [illegible] equipment acquisition and distribution		/			/																														
15. [illegible]																																			

TABLE D-I (Cont'd) FUNCTIONS AND COORDINATION OFFICES/AGENCIES

FUNCTIONS \ COORDINATION OFFICES, AGENCIES	USASC	DCD	DCD-MSD DIV	DCD-C&S DIV	DCD-OPCN DIV		DTD	DOT	DOE	DCBMM	C-E BOARD	TCM-TA/MAF	TSM-AU EW	TSM-STIN ARS	TSM-ATACS	TSM-MMS/ALOS	TRADOC	LOGC	CACDA	USACC	CDE IM	CORAL COM	ISA	TRI-TAC	DA	AIR FORCE	NAVY	MARINE CORPS	DARCOM	PM-NTT	PM-MSCS	PM-SINCGARS	PM-PLRS/JTIDS	SATCOMA	
TRANSITION IMPLEMENTATION																																			
15. [illegible] and manage the [illegible] Transition Plan		X	X	X	X		X	X	X	X	X	X	X	X	X	X					X	X	X	X	X				X	X	X	X	X	X	
16. Maintain the AIIMS data base, provide current [illegible] agencies [illegible] with systems [illegible]			X		X		X	X			X	X	X	X			X			X		X	X	X	X						X	X		X	
17. [illegible] equipment [illegible] to FDAC and TRI-TAC Worksheets			X														X							X	X					X	X				

TABLE 4-I (Con't) FUNCTIONS AND COORDINATION OFFICES/AGENCIES

FUNCTIONS \ COORDINATION OFFICES/AGENCIES	OSASC	DCD	DCD-[illegible] DIV	DCD-[illegible] DIV	DCD-CR M DIV		DTD	DOT	DOE	[illegible]	C-E BOARD	[illegible]-PROGRAM	[illegible]-AU CN	[illegible]-FUNCTIONAPS	[illegible]-AREAS	[illegible]-[illegible]	TRADOC	[illegible]	CACDA	[illegible]	CERCOM	[illegible]	NSA	TAC-TAC	DA	AIR FORCE	NAVY	[illegible] CORPS	[illegible]	[illegible]-[illegible]	[illegible]-[illegible]	[illegible]-SI[illegible]	[illegible]-MEA/TIPS	[illegible]
[illegible] to accompl[illegible] for																																	
[illegible] Level Switches																																	
[illegible] [illegible]ment and [illegible]				X	X					X			X										X	X					X			
[illegible] [illegible] and to [illegible] [illegible] [illegible]																																	
[illegible] [illegible]																	X	X	X														

Systems Policies, Objectives, Procedures and Responsibilities, as applicable.

Function #5. The end product of this function will be two periodically updated documents: INTACS Architecture and Transition Architecture Requirements.

Function #6. This function will require examination of each element of hardware within each subsystem, node, system and extension system, and expansion of these elements in the form of the end product: Network diagrams showing types and capacities of channels, connectivity, hardware identification, extension subsystem options, link grade of service, and type units to be served. Will also assist in cost effective evaluation of concept refinements.

Function #7. This function insures that integration requirements are considered in conceptual and doctrinal studies performed by other organizations.

Function #8. The review of Field and Technical manuals, accomplished early in the development process, insures total integration of new materiel and doctrine as a package.

Function #9. As a planning function consideration must be given to the transition POM forces, force priorities, budget, equipment availability, cost and issue basis, and personnel requirements including training. The end product of this function is an up-to-date AIIMS data basis containing these factors.

Function #10. The support of all TSM's and USASC Directorates, as a planning function, will insure coordination and integration of communications systems, training, logistics and other Life Cycle Management functions.

Function #11. This planning function will define the implementation constraints such as geographic area, force size, procurement and training considerations, suitable for ADP application. The end product will be inputs to the AIIMS data base.

Function #12. This planning function requires extensive coordination to determine the needs of other headquarters and agencies.

The end product will be a set of procedures governing the utilization of schedules/summaries to be obtained from the AIIMS.

Function #13. This planning function requires maximum coordination since the predicted distribution of the INTACS schedules will be quite extensive. The end product will be the equipment acquisition and distribution schedules prepared by the AIIMS.

Function #14. This planning function requires minimum coordination. The end product, obtained from the AIIMS data base, is the USASC recommended acquisition priorities and funding profiles which serves as input to the annual TRADOC Priorities Program.

Function #18. This planning function requires close and continuing coordination, principally with other DCD Directorates and others on a less frequent basis. The end product will be a systems-oriented O&O concept as opposed to the normal hardware concept.

Function #19. This planning function requires close and continuing coordination, principally with CACDA, TRADOC and LOGC, the latter headquarters being the proponent for the project. The end product will be a systems-oriented concept as opposed to the normal hardware concept.

Function #15. The end product of this implementation function is the transition plan which will contain basis of issue, TOE, priorities, budget, fielding schedules, training and other factors as determined upon expansion of the AIIMS. Will require coordination with a large number of headquarters/agencies because of the wide range of subject matter.

Function #16. The performance of this implementation function will require close and continuing coordination with those organizations that have inputs to the AIIMS data base. The end product of this function is current INTACS information to be distributed to agencies on a "as required" basis.

Function #17. The performance of this implementation function will require intensive coordination, especially with

appropriate DARCOM Project Managers. The end products will be an updated RDAC Worksheet and a completed TRI-TAC Transition Worksheet, both of which are described in Appendix A of the Transition Plan.

Relationships Of Equipment To Coordination Offices/Agencies.

This section concerns the major equipments that are either in the process of being fielded or projected to be fielded in the transition and objective phases of the INTACS. Table D-II shows each office/agency having a mission interest in each item of equipment and requiring coordination at one time or another with the Systems Integration Management Division. Also shown are several items of equipment fielded in the near past since they have a close relationship to other equipments, for example, the AN/TTC-38 Circuit Switch. The letter "X" identifies each office/agency that requires close coordination to perform the mission functions for each item of equipment.

Relationships Of Functions To Organization Elements.

As described in Section 3.1, Management Plan, each function is assigned to a specific element of the Organization, with assistance to be provided, as appropriate by one or more elements. Such assistance may be in the form of a specific input, written or verbal. Table D-III shows this relationship as well as the responsibility for the completion of each function.

TABLE D-II EQUIPMENTS AND COORDINATION OFFICES/AGENCIES

COORDINATION OFFICES/AGENCIES / EQUIPMENTS	USASC	DCD	DCD-MSD DIV	DCD-C&S DIV	DCD-CKGN DIV		DTD USASC	DOT USASC	DOE USASC	DCEEM USASC	C-E BOARD	TSM-[illegible]	TSM-AU SW	TSM-SINCGARS	TSM-ATACS	TSM-MSE/ADDS	TRADOC	[illegible]OGC	CACDA	U[illegible]ACC	CERCOM	CORADCOM	NSA	TRI-TAC	DA	AIR FORCE	NAVY	MARINE CORPS	[illegible]	PM-[illegible]ACS	PM-[illegible]	PM-SINCGARS	PM-PLRS/TIDS	SATCOMA	
[illegible] TRANSMISSION:																																			
[illegible] T[illegible]-1065 [illegible]B		X	X	X	X		X	X	X	X	X	X			X		X	X		X	X	X			X				X	X				X	
T[illegible]-10[illegible] TDD[illegible]		X	X	X	X		X	X	X	X	X				X		X	X		X	X	X			X				X	X					
AN/TRC-17[illegible];AN/TRC-174		X	X	X	X		X	X	X	X	X		X				X	X			X	X		X	X						X				
[illegible] AN/TRC-17[illegible]		X	X				X	X	X	X	X		X				X	X			X	X		X	X						X				
[illegible] AN/TRC-175		X	X				X	X	X	X	X		X		X		X	X			X	X		X	X				X		X				
[illegible]ANTENNA TSC-85, 93		X	X	X			X	X	X	X	X	X					X	X			X	X			X									X	
-[illegible]NA(PCOS)		X	X				X	X	X	X	X	X					X	X			X	X			X									X	
[illegible] TERMINALS		X	X				X	X	X	X	X					X	X	X			X	X			X								X		
A[illegible]C-1[illegible]																																			
[illegible] FACILITIES(FIP)		X	X				X	X	X	X					X		X	X			X	X			X					X					
TACTICAL COMMUNICATIONS																																			
[illegible] FACILITIES(TCF):																																			
[illegible]		X	X				X	X	X	X					X		X	X			X	X			X					X					
[illegible]		X	X				X	X	X	X					X		X	X			X	X			X					X					
[illegible]		X	X				X	X	X	X			X				X	X		X	X	X		X	X						X				
[illegible]		X	X				X	X	X	X			X				X	X		X	X	X		X	X						X				
[illegible]		X	X				X	X	X	X			X				X	X		X	X	X		X	X						X				
[illegible]		X	X				X	X	X	X			X				X	X		X	X	X		X	X						X				

TABLE D-II (Cont'd) EQUIPMENTS AND COORDINATION OFFICES/AGENCIES

EQUIPMENTS \ COORDINATION OFFICES/AGENCIES	USASC	DCD	DCD-MSD DIV	DCD-CSS DIV	DCD-ORGN DIV		DTD	DOT	DOE	DCEFM	C-E BOARD	TSM-TACSAT	TSM-AN SW	TSM-SIN VARS	TSM-ATACS	TSM-MSE/AADS	TRADOC	[illegible]	CACDA	[illegible]	CERCOM	CORADCOM	NSA	TRI-TAC	DA	AIR FORCE	NAVY	MARINE CORPS	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible] SWITCHING:																																			
[illegible]		X	X				X	X	X	X					X		X	X			X	X			X					X					
[illegible]		X	X				X	X	X	X					X		X	X			X	X			X					X					
[illegible]		X	X				X	X	X	X			X				X	X		X	X	X		X	X						X				
[illegible] TTC-42; SB-3865		X	X				X	X	X	X			X				X	X		X	X	X		X	X						X				
[illegible] (RECORD TRAFFIC)																																			
MSG SWITCH AN/TYC-39		X	X				X	X	X	X			X				X	X		X	X	X		X	X						X				
[illegible] AN/[illegible]-4		X	X				X	X	X	X			X				X							X	X						X				
[illegible]		X	X				X	X	X	X			X				X	X						X	X						X				
[illegible]		X	X				X	X	X	X			X				X	X						X	X						X				
TELEPHONES:																																			
TA-[illegible]		X	X				X	X	X						X		X	X		X	X	X			X					X					
TA-[illegible]		X	X				X	X							X		X	X		X	X	X			X					X					
TA-[illegible] (SWAT)		X	X				X	X	X	X				X			X	X		X	X	X	X		X							X			
[illegible] KY-[illegible]		X	X				X	X	X	X			X				X	X		X	X	X	X	X	X						X				
[illegible] TA-[illegible]		X	X				X	X	X	X			X				X	X						X	X						X				
TA-[illegible]																																			

TABLE D-II (Cont'd) EQUIPMENTS AND COORDINATION OFFICES/AGENCIES

COORDINATION OFFICES/AGENCIES / EQUIPMENTS	USASC	DCD	DCD-MSD DIV	DCD-CSS DIV	DCD-ORGN DIV		DTD	DOT	DOE	DCEMM	C-E BOARD	TSM-[illegible]	TSM-AU SW	TSM-SINCGARS	TSM-ATACS	TSM-MSE/ADDS	TRADOC	LOGC	CACDA	USACC	CERCOM	CORADCOM	NSA	TRI-TAC	DA	AIR FORCE	NAVY	MARINE CORPS	[illegible]	PM-ATACS	PM-M-[illegible]S	PM-SINCGARS	PM-PLRS/TIDS	SATCOMA	
[illegible]:																																			
[illegible] KY-57; KY-58		X	X				X	X	X	X				X			X	X		X	X	X	X		X							X			
[illegible]		X	X				X	X	X	X				X			X	X		X	X	X	X		X							X			
[illegible] KY-65; KY-75		X	X				X	X	X	X				X			X	X		X	X	X	X		X							X			
[illegible] (TRITAC)		X	X				X	X	X	X			X				X	X		X	X	X	X	X	X						X				
[illegible] AND CABLE:																																			
[illegible]		X	X				X	X	X	X	X				X		X	X		X	X	X			X					X					
[illegible]		X	X				X	X	X	X	X				X		X	X		X	X	X			X					X					
[illegible] & [illegible]EMS		X	X				X	X	X	X			X				X	X		X	X	X		X	X						X				
[illegible] CHANNEL:																																			
TACSAT - UHF AN/PSC-1		X	X				X	X	X	X	X	X					X	X			X	X			X									X	
- UHF AN/[illegible]-65		X	X						X	X	X	X					X	X			X	X			X									X	
- [illegible] ANTENNA (SCOTT)		X	X				X	X	X	X	X	X					X	X			X	X			X									X	
[illegible]:																																			
[illegible] (M)							X	X	X	X	X			X			X	X				X			X							X			
[illegible] C-6709)							X	X	X	X	X					X	X	X							X								X		
[illegible]		X	X				X	X	X	X	X					X	X	X			X	X	X		X								X		

TABLE D-III RELATIONSHIP OF FUNCTIONS TO ORGANIZATION ELEMENTS

FUNCTION	CHIEF	ARCHITECT & EVALUATION	PLANNING	IMPLEMENT-ATION
1. Definition & Direction; Priorities, Obj & Goals	R S		F	
2. High Level Conferences; INTACS Staff Advisor	R S		F	
3. Briefings on Status & Plans: INTACS & AIIMS	R S		F	
4. Direction for assigned Contract supported proj	R S F			
5. Source Documents: Architecture, comm opt & impl		R S F	A	
6. System Concept Expansion; Cost Effective assistance	A	R S F		
7. Conceptual & Doctrinal Working Groups	A	R S F	A	
8. Field & Technical Manual Review of systems integ		R S F	A	
9. Strategy for implementing transition & objective sys		A	R S F	
10. Supports TSM's & USASC Directorates	A	A	R S F	
11. Constraints identification for use in AIIMS		A	R S F	
12. Procedures established to control AIIMS outputs			R S F	
13. Equip acquisition & distribution schedules			R S F	
14. Acquisition Priorities & Funding Profiles - TRADOC			R S F	A
15. INTACS Transition Plan developed and managed			A	R S F
16. AIIMs data base maintained and agencies supported				R S F
17. Equipment rqmts provided for RDAC & TRI-TAC			A	R S F
18. O&O Concepts for Unit Level Cct Switch developed		A	R S F	
19. Decentralized Auto Svc Spt (DNS_3) supported		A	R S F	

LEGEND: R - element responsible for the function
S - element that starts work on the function
A - element that provides assistance/input
F - element that finishes work on the function

Appendix E. System Integration And Management Resources

This appendix contains an analysis of the resources needed to perform the mission functions, which will include personnel and Automatic Data Processing (ADP) requirements. Condideration will be given for staffing levels, education and experience requirements for personnel.

E.1 Personnel

E.1.1 Tasks Related to Organization

Each government-furnished task with its man/day requirement for FY-81 was matched to the appropriate function and organizational element. Also provided were the man/day requirements for support functions such as clerical/administrative work and nonproductive time (annual leave, sick leave). As shown in column one of Table E-I, each task is identified by its 5-digit TRADOC Action Control Number (ACN). The man/day requirement for each task is identified by FY Quarter for the appropriate organizational element of Systems Integration. The four elements are Systems Integration Headquarters, Architecture and Evaluation (#1), Transition Planning (#2) and Implementation (#3).

As shown in Table E-I, each function has one or more tasks and each task is assigned to one or more organizational elements for manday effort. Primary responsibility for each task is assigned to a specific element and supported by one or more elements. The division of effort is shown by manday requirement for each task and element. The summation of the 33 tasks associated to the 19 functions resulted in the number of personnel required by the organization as derived from the Grand Total of man/days required. Since a year is considered to be 250 duty days, this equates to a requirement of 40 professional and clerical personnel as shown on the continuation sheet page of the table. For a division organization, a Division Chief and a Secretary are required.

TABLE F-I MANDAY REQUIREMENTS BY ORGANIZATIONAL ELEMENT VS FUNCTIONS/TASKS

MANDAYS/TEAM/FY QTR / FUNCTIONS & TASKS	FY 81/1				FY 81/2				FY 81/3				FY 81/4			
	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3
HQ.																
1. Provides definition and direction for INTACS action; System priorities, objectives and goals.																
58320 - INTACS Integration: Working Group Meetings	4		45		4		40		4		40		4		40	
2. Represents USASC at high level Conferences.																
58345 - INTACS Integration II	4		36		4		36		4		36		4		36	
3. Conducts briefings on status of INTACS and AIMS.																
58320 - INTACS Integration: Conduct briefings	4		26		4		26		4		26		4		26	
4. Provides direction for contract supported projects.																
58320 - INTACS Integration: Contract Officer Representative	20				20				20				20			

TABLE B-1 (Cont'd) MANDAY REQUIREMENTS BY ORGANIZATIONAL ELEMENT VS FUNCTIONS/TASKS

MANDAYS/TEAM/FY QTR / FUNCTIONS & TASKS	FY 81/1				FY 81/2				FY 81/3				FY 81/4			
	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3
SYST'S ARCHITECT & EVALUATION:																
5. Prepare and issue source documents on Architecture, Comm support and implementation.																
2?164 - JINTACCS		6	74			6	74			6	74			6	74	
58?15 - INTACS Integration II:																
Review/Modify documents		74	6			79	6			79	6			79	6	
Supports TRI-TAC's/Directorates	5	89	8		5	89	8		5	89	8		5	89	8	
57?16 - Army Battlefield																
Interop (BAISEMP)		300	25			300	25			300	25			300	25	
58?70 - INTACS Integration:																
Documentation		52	3			52	3			52	3			52	3	
03?73 - NATO Panel VIII		6				6				6				6		
27?73 - Science & Tech Obj																
Guide		6				6				6				6		
54?11 - NATO Standard		7				7				7				7		
01?70 - Quadriparite		6				6				6				6		
6. Expands Systems Concepts; Participates in Cost effective evaluation of refinements.																
5?120 - INTACS Integration:																
Life Cycle System Mgt Spt	4	54			4	54			4	54			4	54		

TABLE D-I (Cont'd) MANDAY REQUIREMENTS BY ORGANIZATIONAL ELEMENT VS FUNCTIONS/TASKS

MANDAYS/TEAM/FY QTR / FUNCTIONS & TASKS	FY 81/1				FY 81/2				FY 81/3				FY 81/4			
	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3
7. Support conceptual and doctrinal working groups.																
29104 - JINTACCS	3	3	54													
59345 - JINTACCS Integration II:					3	3	54		3	3	54		3	3	54	
Working Meetings		20				22				22				22		
8. Review Field and Technical Manuals regarding systems integration.																
29339 - C-E Development		56	6			58	6			58	6			58	6	
18. Develops O & O Concepts for [illegible] level Circuit Switches (DCS)																
29442 - Employment and Orgn Concepts		25	104			20	92			20	92			20	92	
19. Review and respond to documentation on DAS_3 equipment																
29335 - Documentation, briefings and meetings.		2	4			2	4			2	4			2	4	

TABLE E-I (Cont'd) MANDAY REQUIREMENTS BY ORGANIZATIONAL ELEMENT VS FUNCTIONS/TASKS

MANDAYS/TASK/FY QTR / FUNCTIONS & TASKS	FY 81/1				FY 81/2				FY 81/3				FY 81/4			
	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3
TRANSITION PLANNING:																
9. Develops strategy for implementing transition and objective systems.																
58320 - INTACS Integration: Coordination Visits		4	36			4	36			4	36			4	36	
10. Supports all TSM's and USASC Directorates.																
58347 - INTACS Integration II	5	12	208		5	12	208		5	12	208		5	12	208	
11. Defines transition and implementation constraints for use in AIMS.																
58348 - INTACS Integration II: Constraints		2	13			2	13			2	13			2	13	
12. Establishes procedures for utilization of schedules from AIMS.																
58349 - INTACS Integration II: Extraction & Utilization			10				10				10				10	

TM [illegible]-1 (Cont'd) MANDAY REQUIREMENTS BY ORGANIZATIONAL ELEMENT VS FUNCTIONS/TASKS

FUNCTIONS & TASKS / ORG/TEAM/FY QTR	FY 81/1				FY 81/2				FY 81/3				FY 81/4			
	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3
3. Plans procurement acquisition and distribution schedules.																
5e345 - Supports MCD Div			8				8				8				8	
4. Prepares acquisition priorities and funding profiles for TRADOC.																
5e345 - INTACS Integration:																
[illegible]MDP Support			6	6			6	6			6	6			6	6
TRANSITION IMPLEMENTATION:																
15. Develops and manages INTACS Transition Plan.																
45548 - AIIMS Documentation			3	21			3	21			3	21			3	21
16. Maintains AIIMS data base; provides current information to agencies involved with systems integration																
45548 - AIIMS Data Base				55				55				55				55
- User's Manual				27				27				27				27
--TEOIP				166				166				146				146
- TEE/POI				79				79				79				79
- Procurement				103				103				103				103
- Force Analysis				79				79				79				79

TABLE E-I (4-I) Con't SUMMED MANDAY REQUIREMENTS BY ORGANIZATIONAL ELEMENT PER QUARTER

MANDAYS/TEAM/FY QTR / FUNCTIONS & TASKS	FY 81/1				FY 81/2				FY 81/3				FY 81/4				M/D TOT
	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3	HQ	1	2	3	
17. Provides equipment requirements to PDAC and TRI-TAC Worksheets.																	
59345 - INTACS Integration II : PDAC TRI-TAC Input			3	12											3	12	
MISSION MANDAYS	49	726	678	548	49	728	658	536	49	726	650	516	49	728	661	528	7889
PROFESSIONAL SUPPORT	13	141	80	14	14	139	100	26	13	139	100	46	14	139	97	34	1109
CLERICAL SUPPORT		125	62	62		125	63	63		125	62	62		125	63	63	1000
TOTAL																	[illegible]

TABLE E-I (4-I) (Cont'd) MANDAY REQUIREMENTS BY ORGANIZATIONAL ELEMENT

	HEADQUARTERS	ARCHITECTURE	PLANNING	IMPLEMENTATION	TOTAL
MANDAYS BY ELEMENT	250	4000	3249	2499	9998
PERSONS REQUIRED:	1	16	13	10	40

E.1.2 Personnel Requirements

An analysis of the requirement for 42 personnel shows the need for 37 professional/technical and 5 clerical personnel. For the most part the types of personnel are determined by maintaining about the same mix as in the current organization, the exception being the ADP personnel which are added to support the AIIMS since the current ADP functions are being performed by contract. The 42 personnel are shown by organizational structure in Table E-II.

Selection of types of professional personnel was based on the need for communications systems architecture and transition planning experience. A balanced mix of military and civilian personnel was necessary in order to provide a balance of field experience by military personnel and technical experience by civilian personnel. Thus, the Systems Integration and Management organization will be able to keep current on field/combat conditions as well as providing equipment/systems expertise.

In view of the complexity of the functions when compared to other Divisions of the Directorate of Combat Developments, it is believed that the command element should consist of a Lieutenant Colonel as Division Chief and a GS-14 as Assistant Division Chief. Since the functions of the Systems Integration Division are systems and new equipment oriented, the Division Chief should possess a Systems Engineer (27A) primary specialty with Research & Development (R&D: 51) as secondary specialty. To provide long-term continuity and far-ranging technical expertise, the Assistant Division Chief (not a Deputy) should be a Supervisory Communications Specialist (393), GS-14. The grade structure in both cases will not create a precedence since three divisions of the current Directorate of Combat Developments (DCD) possess the same authorized grades.

It is evident that all three Team Leaders should be school-trained and all three positions should be designated as Army Education Requirements Board (AERB) positions to assure the three individuals are assigned for a minimum of 36 months. Two of the Project Officers in the Planning element also fall into the AERB category. The Architecture

SYS INTEGRATION & MGMT DIVISION

CHIEF 05/27A51 - SUPV COMM SPEC - GS-14-393

SECRETARY - 05/318

SYSTEM ARCH & EVAL TEAM

1	Team Leader	*04-27A53
1	Senior Proj Officer	13-393
3	Proj Officer	12-393
1	Proj Officer	12-855
1	Tele Comm Tech	CWO-290A
1	Project NCO	E8-31Z50
1	Project NCO	E8-26Y50

SYSTEM TRANSITION TEAM

1	*Team Leader	04-27A51
2	*Proj Officer	03-27A51
1	Proj Officer	03-25A53
1	Senior Proj Off	13-393
3	Proj Officer	12-393

AIIMS/ASEP/IMPLEMENTATION TEAM

1	*Team Leader	04-53A51
1	Proj Officer	03-27A53
1	Sen Proj Officer	13-393
2	Proj Officer	12-334
2	Proj Officer	11-334
2	Proj Officer	9-334

BAISEMP PROJECT (ACN: 57216)

1	Project Officer	03-53A51
2	Project Officer	12-393
1	Project Officer	11-393
1	Project NCO	E8-74F

JINTACCS (ACN: 20164)

1	Project Officer	03-53A51
1	Project Officer	11-393

O & O CONCEPT ULCS

1	Project Officer	03-53A51
1	Project Officer	12-393

14	TOTAL TEAM 1	
4	CLERK TYPIST	04-322

12	TOTAL TEAM 2	

9	TOTAL TEAM 3	

HQ TOTAL	3
TEAM 1	14
TEAM 2	12 - 2
TEAM 3	9
TYPIST	4
	42 TOTAL

* MDP Validated

Team Leader should be MOS: 27A53, whose primary specialty is Systems Engineer and whose secondary specialty is ADP. A study of the Planning Team indicates a need for two individuals of MOS: 27A51, Systems Engineer/R&D. Since the principal effort of the Implementation Team is denoted to the AIIMS functions, it indicates a need for a Team Leader of MOS: 53A51, whose specialties are ADP/R&D. The recommendation of grade structure of 04 for the 3 Team Leaders is consistent with the gravity and complexity of the jobs and is compatible with manning levels of the other divisions of the DCD.

Since it is Army policy that a Commissioned Officer does not normally command others of his grade, the Commissioned Officer project officers were selected as grade 03 and consisted of 7 individuals whose primary and secondary specialties cover several areas. These areas are Signal Communications (25), Systems Engineer (27), R&D (51), and ADP (53). This balanced mix of specialties will insure a cross-section of expertise within the Division as well as the ability to converse with outside activities with a Systems Integration range of vision. To complete the balance is the inclusion of a senior Warrant Officer (290A) in the Architecture element, whose specialty as a Telecommunications Technician insures technical coverage of Telecommunications Center (TCC) matters. This is very important considering the number and varieties of TCC's in the combat zone.

The total of 12 Commissioned and Warrant officers is 28% of the total strength of the Division, and is 40% of the professional strength. About half of the professional strength should consist of military personnel. As a result, 3 Project NCO's were included in the Architecture element. The MOS selected was 31Z50. Comm-El Operations Chief who is experienced in "installation and operation of integrated C-E field communications systems, and fixed and semi-fixed HF, UHF, TROPO, Satellite, AUTOVON, AUTOSEVOCOM and AUTODIN facilities." The expertise provided by this MOS is mission essential to the Architecture element.

The next area to be examined is the justification for or against an Electrical Engineer. The Planning Team can make extensive use of one Electrical Engineer, 855-series, GS-12. The expertise of this individual would assure that detailed implementation planning would be accomplished within prescribed communications engineering criteria. The individual would also be available to advise the Architecture element concerning Systems Engineering matters. This is not to be construed that the Signal School is responsible for systems engineering. Such is the responsibility of CORADCOM-CONSEI. An engineer is needed within Systems Integration on a full time basis.

To complete the project officers, a total of 14 Communication Specialists, 393-series, GS-13 thru GS-11 would provide the necessary balance to the 15 Officers, Warrant Officers and NCO's. This ratio provides the Division with an equal number of individuals with recent field experience and those possessing technical expertise.

The ADP personnel were selected, both in numbers and types based upon experience obtained from the current AIIMS supported by contract.

The 4 Clerk Typists, GS4, 322-series are recommended based upon the government-provided formula of 1 clerk typist per 8 project people. The Secretary, GS5, 318-series is justified on the basis of one per organization of this size, the standard formula within the Signal School.

These 42 persons are assigned internally to the Systems Integration and Management organization as shown in Table E-III. Listed in descending order by grade structure, the table provides a summary of the personnel by MOS.

DESCRIPTION	GRADE	MOS	BR	TOT REQ	HQ	ARCH	PLAN	IMPL
Chief	05	27A51	SC	1	1			
Supv Comm Spec	GS 14	393	C	1	1			
Team Leader *	04	27A53	SC	1		1		
Team Leader *	04	27A51	SC	1			1	
Team Leader *	04	53A51	SC	1				1
Proj Officer *	03	27A51	SC	2			2	
Proj Officer	03	25A53	SC	1			1	
Proj Officer	03	53A51	SC	3		1	2	
Proj Officer	03	27A53	SC	1				1
Telecomm Tech	W4	290A		1		1		
Proj NCO	E8	31Z50	NC	3		3		
Sr Proj Officer	GS 13	393	C	3		1	1	1
Proj Officer	GS 12	393	C	9		5	4	
Proj Officer	GS 12	855	C	1		1		
Cmpt Sys Anal	GS 12	334	C	2				2
Proj Officer	GS 11	393	C	2		1	1	
Cmpt Sys Anal/Prog	GS 11	334	C	2				2
Cmpt Prog	GS 9	334	C	2				2
Secy	GS 5	318	C	1	1			
Clerk Typist	GS 4	322	C	4		2	1	1
TOTAL				42	3	16	13	10

* AERB Validated

TABLE E-III SYSTEMS INTEGRATION & MANAGEMENT PERSONNEL

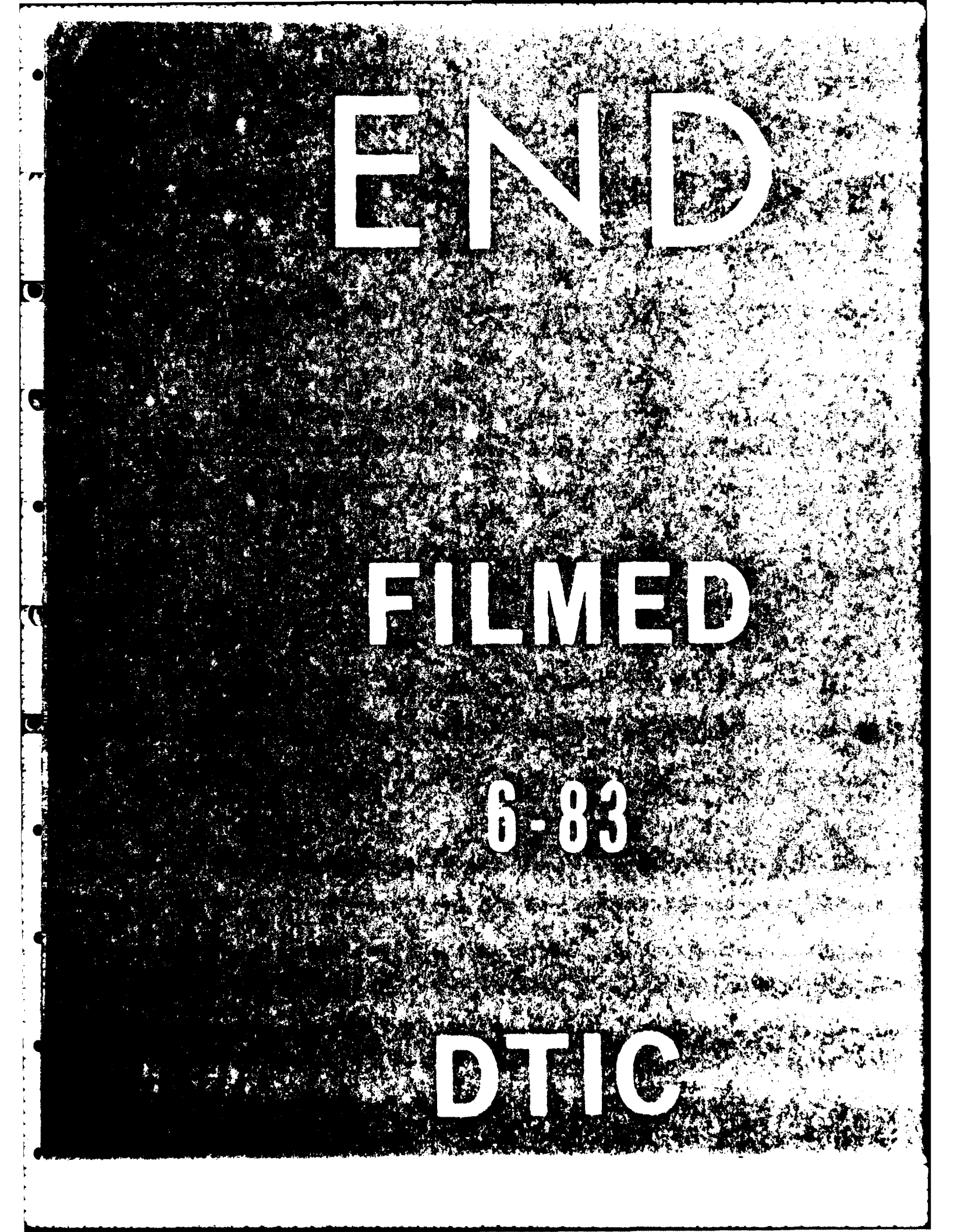
E.2 ADP Requirements

The result of estimating the specific automated reports which support System Integration and Management functions and tasks is the basis for determining ADP and reproduction requirements. It is assumed that these same automated reports will be provided either directly to supported organizations or indirectly to them in the form of briefings.

A report set was defined under Management Plan, Section 2.5 on Procedures Table 2-V, for each organizational element of System Integration and Management matched to functions and tasks. The set contains several reports of known run time and printing/reproduction requirements. The quantities and frequencies of report sets required to support the functions and performance of tasks are estimated based on organization, tasks and procedures for reporting to external principal and supported organizations.

The number of report sets are summed to provide the basis for calculating the ADP report requirements in terms of Run, Printing and Reproduction times. Storage, Input/Output Terminals, Frequency of Runs, and Run Time requirements have been estimated previously per TRADOC Reg 18-6 as a part of the Transition Implementation (AIIMS) development function/task.

Table E-IV provides the quantity and frequency of the report sets which support System Integration and Management functions/tasks and are furnished to external organizations. ADP requirements for each report set are listed and the total report requirements are summed at the end of the table. Storage and terminal requirements from previous estimates on AIIMS are expanded to account for System Evaluation and System Management Information programs. These together sum up all the estimated ADP requirements for the Automated Management System.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